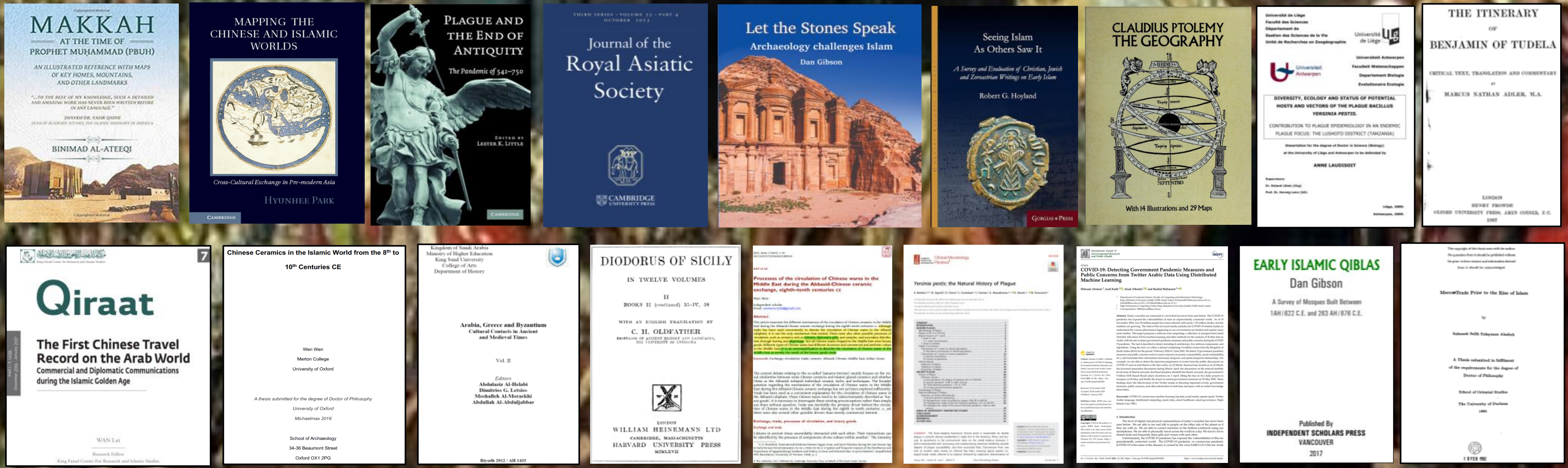
Origins of Islam: Mecca

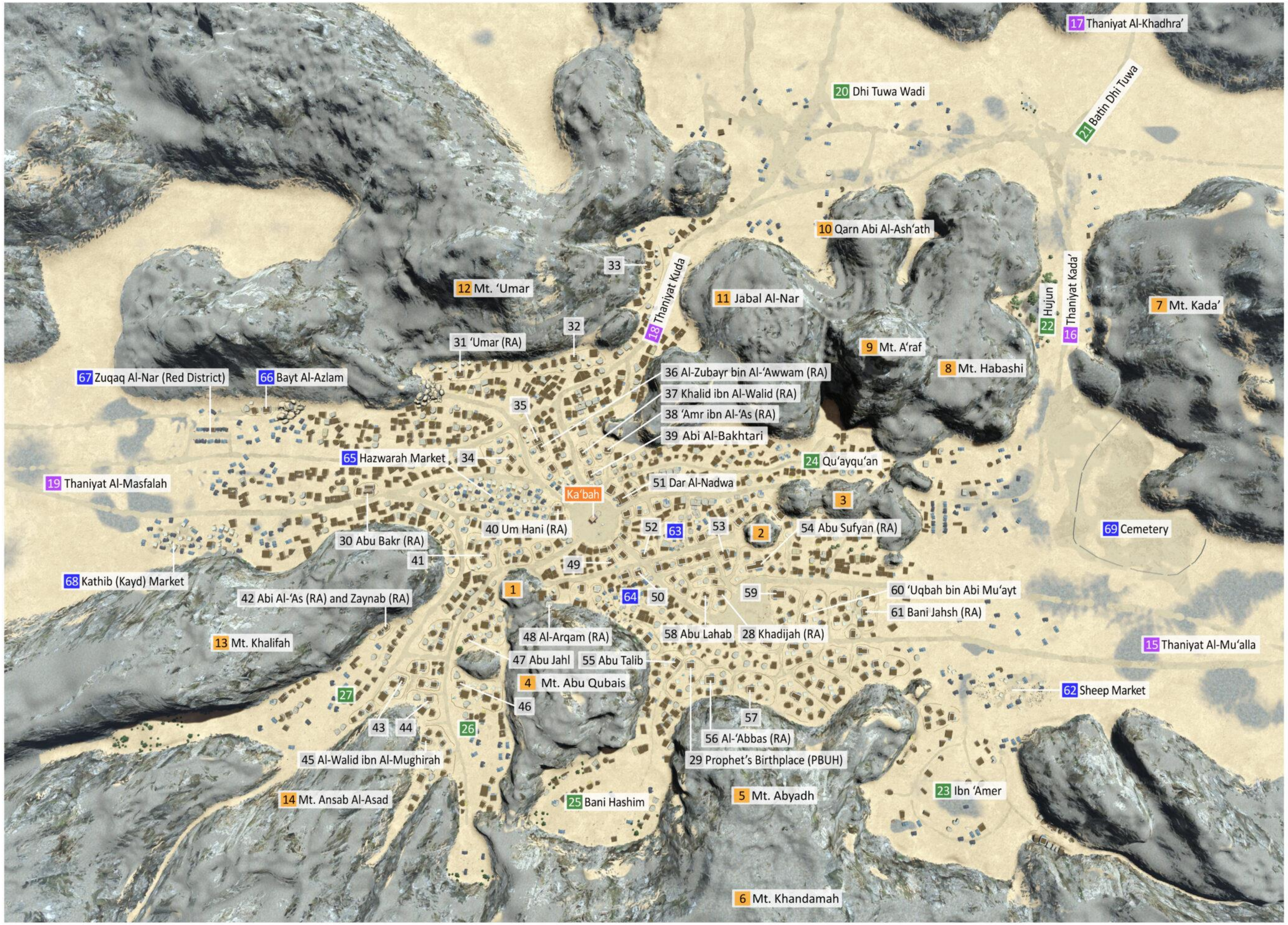


Outline:

- *City of Mecca (Islamic sources)*
- *Early Islamic maps*
- *Diodorus (1st century BC)*
- *The periplus of erythraean sea (1st century AD)*
- *Silk route (1st – 3rd century AD)*
- *Ptolemy (2nd century AD)*
- *Justinian plaque (6th century AD)*
- *Early kiblas (7th – 8th century AD)*
- *Arab-Byzantine chronicle 741 (8th century AD)*
- *Chinese trade route (8th century AD)*
- *Chinese ceramics (8th – 10th century AD)*
- *Summary*

Makkah ca 600 AD

Islamic sources
(9th– 21st century AD)



Mountains

1. Mt. Safa
2. Mt. Marwa
3. Mt. Shaybah
4. Mt. Abu Qubais
5. Mt. Abyadh (Mustadbir/Mustandhir)
6. Mt. Khandamah
7. Mt. Kada'
8. Mt. Habashi
9. Mt. A'raf
10. Qarn Abi Al-Ash'ath
11. Jabal Al-Nar
12. Mt. 'Umar
13. Mt. Khalifah
14. Mt. Ansab Al-Asad

Exits

15. Thaniyat Al-Mu'alla
16. Thaniyat Kada'
17. Thaniyat Al-Khadhra'
18. Thaniyat Kuda
19. Thaniyat Al-Masfalah

Valleys

20. Dhi Tuwa Wadi
21. Batin Dhi Tuwa
22. Hujun
23. Ibn 'Amer
24. Qu'ayqu'an
25. Bani Hashim
26. Lesser Ajyad Valley
27. Greater Ajyad Valley

Homes

28. Khadijah (RA)
29. Prophet's Birthplace (PBUH)
30. Abu Bakr (RA)
31. 'Umar (RA)
32. Zaid ibn Al-Khattab (RA)
33. Muti' bin Al-Aswad (RA)
34. Ubayy bin Khalaf
35. Hakim bin Hizam (RA)
36. Al-Zubayr bin Al-'Awwam (RA)
37. Khalid ibn Al-Walid (RA)
38. 'Amr ibn Al-'As (RA)
39. Abi Al-Bakhtari
40. Um Hani (RA)
41. Abdullah bin Jud'an
42. Abi Al-'As (RA) and Zaynab (RA)
43. Khalid bin Al-'As bin Hisham (RA)
44. Hisham bin Al-'As bin Hisham (RA)
45. Al-Walid ibn Al-Mughirah
46. Zuhayr bin Abi Umayyah
47. Abu Jahl
48. Al-Arqam (RA)
49. Jubayr ibn Mut'im (RA)
50. Al-'Abbas (RA) (near the path of Mas'a)
51. Dar Al-Nadwa
52. 'Awf bin 'Abd-'Awf, father of 'Abdulrahman ibn 'Awf (RA)
53. 'Utbah bin Rabi'ah
54. Abu Sufyan (RA)
55. Abu Talib
56. Al-'Abbas (RA)
57. Al-Muqawwim
58. Abu Lahab
59. Al-Hakam bin Abi Al-'As (RA)
60. 'Uqbah bin Abi Mu'ayt
61. Bani Jahsh (RA)

Markets and Other Areas

62. Sheep Market
63. Butchers, Shoemakers & Blacksmiths
64. Layl Market
65. Hazwarah Market
66. Bayt Al-Azlam
67. Zuqaq Al-Nar (Red District)
68. Kathib (Kayd) Market
69. Cemetery

Makkah, circa 600 AD

This is the first-ever geographically detailed map of Makkah as it was during the lifetime of Prophet Muhammad (PBUH)! While working on a new English-language biography of the Prophet (PBUH), the map's creator (Abdulaziz Binimad Al-Ateeqi) became frustrated with the lack of visual aids depicting Makkah at the dawn of Islam. He thus embarked on a decade-long journey to create his own materials from scratch, consulting the earliest authentic sources and making several on-site visits to the ancient city itself, soon discovering that the oldest available sources can be quite challenging to "decode," even for native speakers of Arabic. The result was his groundbreaking book, *Makkah at the Time of Prophet Muḥammad (PBUH): An Illustrated Reference with Maps of Key Homes, Mountains, and Other Landmarks* (Kuwait, 2020), now available on Amazon.com.

With the many expansion projects currently taking place in Makkah to accommodate the large influx of pilgrims and other visitors the city hosts each year, the geographic history of the area has already been partially lost and is becoming increasingly less visible. To that end, it was necessary to merge data from modern maps with that from several older maps, using the detailed descriptions in the oldest and best sources available to pinpoint the locations of Makkah's homes and geographic features. Maps and sketches used in this endeavor included the 1807 "Map of Makkah" and "Masjid Al-Haram Sketch," by Ali Bai Al-Abbasi; the 1814 "Plan of Mekka" map, by John Lewis Burckhardt; the 1880 "Drawing of the Makkan Haram Blueprint," by Muhammad Sadiq Basha; the 1880 "Makkah Map," published by Ottoman Empire's Ministry of War; the 1884 "Sketch of The Great Ka'bah and the Noble Sanctuary," by Ayyub Sabri; the 1885 "Plan of Mekka" map and the 1888 "Grundriss der Moschee" and "Grundriss Von Mekka" sketches, by C. Snouck Hurgronje; the 1908 "Map of Makkah," by Ibrahim Rif'at; the 1909 "Sketch of the Homes of 'Abdullah bin 'Abdulmuttalib and Khadijah," by Muhammad Labib Al-Batnuni; the 1928 "Plan of Mekka" and "Plan of the Haram of Mekka and the Mas'a" maps, by Eldon Rutter; the 1940 "Sketch of the Noble Makkan Sanctuary," published by the Egyptian Survey Institute; the 1946 "Haram of Mecca" and "Plan of Mecca" maps, published by the Great Britain Naval Intelligence Division; and the 1984 "Landsat Satellite Photo of Makkah (Orthophoto Map)," published by the Saudi Ministry of Oil and Precious Metals.

Descriptions of Makkah's homes and topographical features were taken from several key sources, including the works of early scholars who lived in Makkah and wrote detailed descriptions of the city. The most important of these sources included *Tarikh Makkah* [The History of Makkah], by Abu Al-Walid Ahmad Al-Azraqi (d. 219 or 222 AH / 834 or 837 AD) and Abu Al-Walid Muhammad bin 'Abdullah Al-Azraqi (d. 250 AH / 864 AD); *Nasab Quraysh* [The Lineage of the Quraysh], by Abi 'Abdullah Al-Mus'ab bin 'Abdullah bin Al-Mus'ab Al-Zubayri (d. 236 AH / 851 AD); *Al-Munammaq fi Akhbar Quraysh* [The Perfected News of Quraysh], by Muhammad ibn Habib ibn Umayyah ibn 'Amr Al-Hashimi (d. 245 AH / 859 AD); *Akhbar Makkah fi Qadim Al-Dahr wa-Hadithih* [The News of Makkah from the Old Ages until Recent Times], by Muhammad ibn Ishaq ibn Al-'Abbas Al-Fakihi (d. 279 AH / 892 AD); *Al-'Iqd Al-Thamin fi Tarikh Al-Balad Al-Amin* and *Shifa' Al-Gharam Bi-Akhbar Al-Balad Al-Haram*, by Imam Taqi Al-Din Muhammad Al-Fasi (d. 832 AH / 1428 AD); *Atlas Khara'it Makkah al-Mukarramah* [An Atlas of Makkah's Maps], by Mi'rah bin Nawab Mirza (1426 AH / 2005 AD); and *The House of Khadijah bint Khuwaylid (RA) in Makkah al-Mukarramah: A Historical Study of Its Location, Building and Architecture*, by Ahmed Zaki Yamani (2014).

The author would also like to thank the Dar Al-Madinah Museum and its kind and generous manager, Mr. Hassan Tahir, for providing valuable information about Makkah's early history and unhindered access to the museum, which further supported the work involved in creating this extraordinary, one-of-a-kind map.

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For updates about the Makkah Map and other beneficial projects:

Website: BinImad.com
YouTube: www.youtube.com/c/BinImadAlAteeqi
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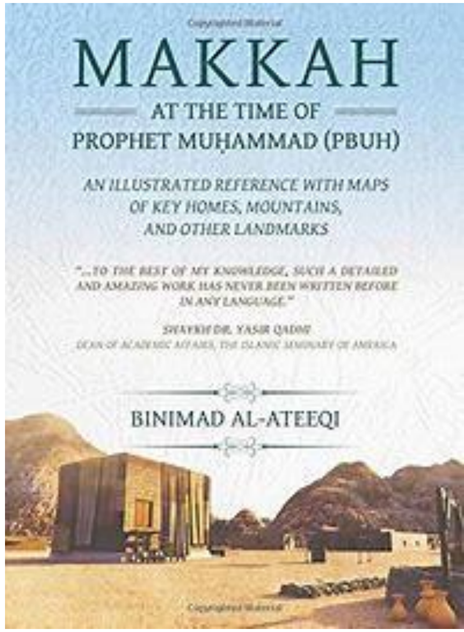


https://binimad.com/shop/maps/makkah-map-c-600-ad/

When the World was Upside Down: Maps from Muslim Civilisation

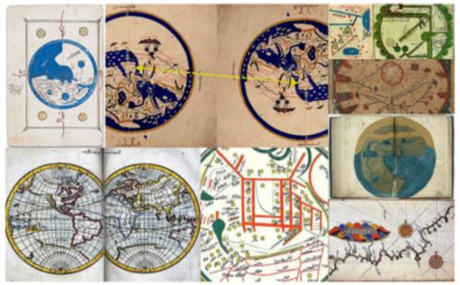
by Cem Nizamoglu, Khaleel Shaikh

Published on: 15th December 2017

4.8 / 5. Votes 177

Tags: Arts - Cem Nizamoglu - Eurocentrism - Khaleel Shaikh - Lifestyle - Literature - Maps - Navigation - People - Places - Travel -

Great scholars from Muslim Civilisation, indeed, turned the world upside down with their maps; not just metaphorically but world maps once were literally upside down (with south dipicted at the top).



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11. Ali Macar Map, 16th Century
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14. Erzurumlu Ibrahim Hakki Map, 18th Century

(https://muslimheritage.com/maps/)

1. Al-Balkhi Map, 9th Century

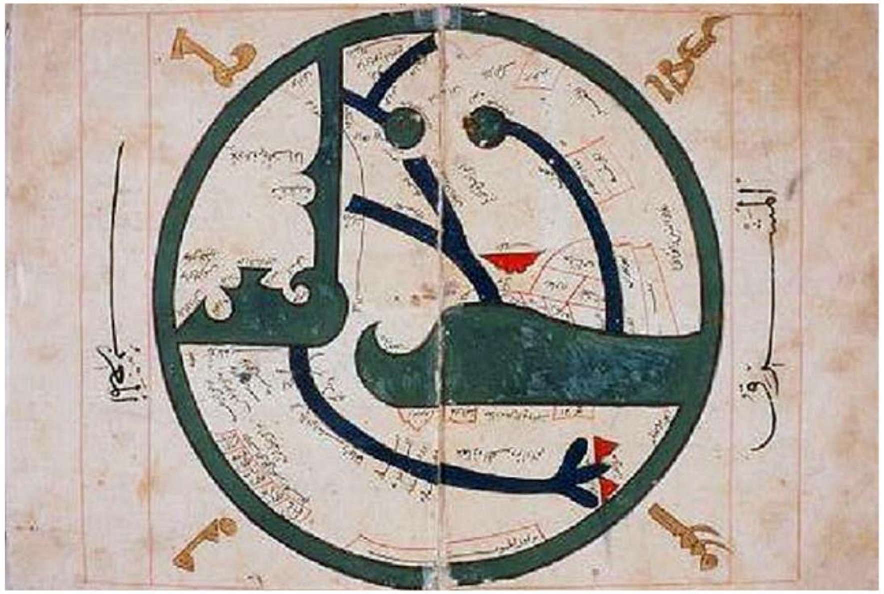

Figure 3. A map by Abu Zaid Ahmed ibn Sahl al-Balkhi (850-934), a Persian geographer who was a disciple of al-Kindi and also the founder of the "Balkhī school" of terrestrial mapping in Baghdad. Picture displayed on "Old Manuscripts and Maps from Khorasan" (Source)

2. Al-Istakhri Maps, 10th century

Figure 4. A world map by Abu Ishaq Ibrahim ibn Muhammad al-Farisi al-Istakhri (934 CE) aka *Estakhri*. The map is oriented with South at the top, a common feature of maps at the time. Picture displayed on "Old Manuscripts and Maps from Khorasan" (Source)

7. Al-Idrisi's World Map, 12th Century

Figure 15. Al-Idrisi's 12th century world map (Source)

14. Erzurumlu Ibrahim Hakki Map, 18th Century

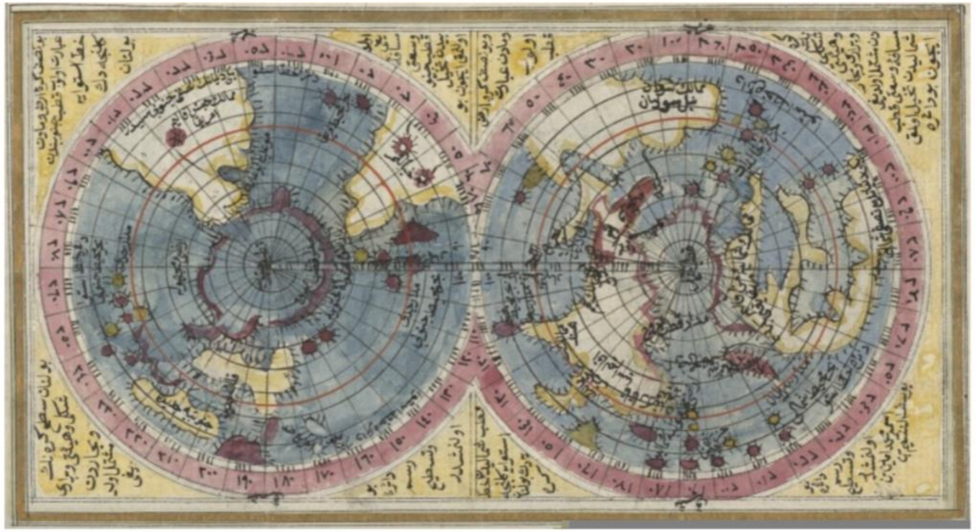

Figure 35. Erzurumlu Ibrahim Hakki's World Map in his Marifetname book (Source)

DIODORUS OF SICILY

IN TWELVE VOLUMES

II

BOOKS II (*continued*) 35–IV, 58

WITH AN ENGLISH TRANSLATION BY

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WILLIAM HEINEMANN LTD
CAMBRIDGE, MASSACHUSETTS
HARVARD UNIVERSITY PRESS
MCMLXVII

shut in as it is by crags which are of wondrous size, its mouth is winding and hard to get out of; for a rock which extends into the sea obstructs its entrance and so it is impossible for a ship either to sail into or out of the gulf. Furthermore, at times when the current rushes in and there are frequent shiftings of the winds, the surf, beating upon the rocky beach, roars and rages all about the projecting rock. The inhabitants of the land about the gulf, who are known as Banizomenes, find their food by hunting the land animals and eating their meat. And a temple has been set up there, which is very holy and exceedingly revered by all Arabians.

Next there are three islands which lie off the coast just described and provide numerous harbours. The first of these, history relates, is sacred to Isis and is uninhabited, and on it are stone foundations of ancient dwellings and stelae which are inscribed with letters in a barbarian tongue; the other two islands are likewise uninhabited and all three are covered thick with olive trees which differ from those we have. Beyond these islands there extends for about a thousand stades a coast which is precipitous and difficult for ships to sail past; for there is neither harbour beneath the cliffs nor roadstead where sailors may anchor, and no natural breakwater which affords shelter in emergency for mariners in distress. And parallel to the coast here runs a mountain range at whose summit are rocks which are sheer and of a terrifying height, and at its base are sharp undersea ledges in many places and behind them are ravines which are eaten away underneath and turn this way

[2] τὴν after μὲν omitted DF, Vogel.

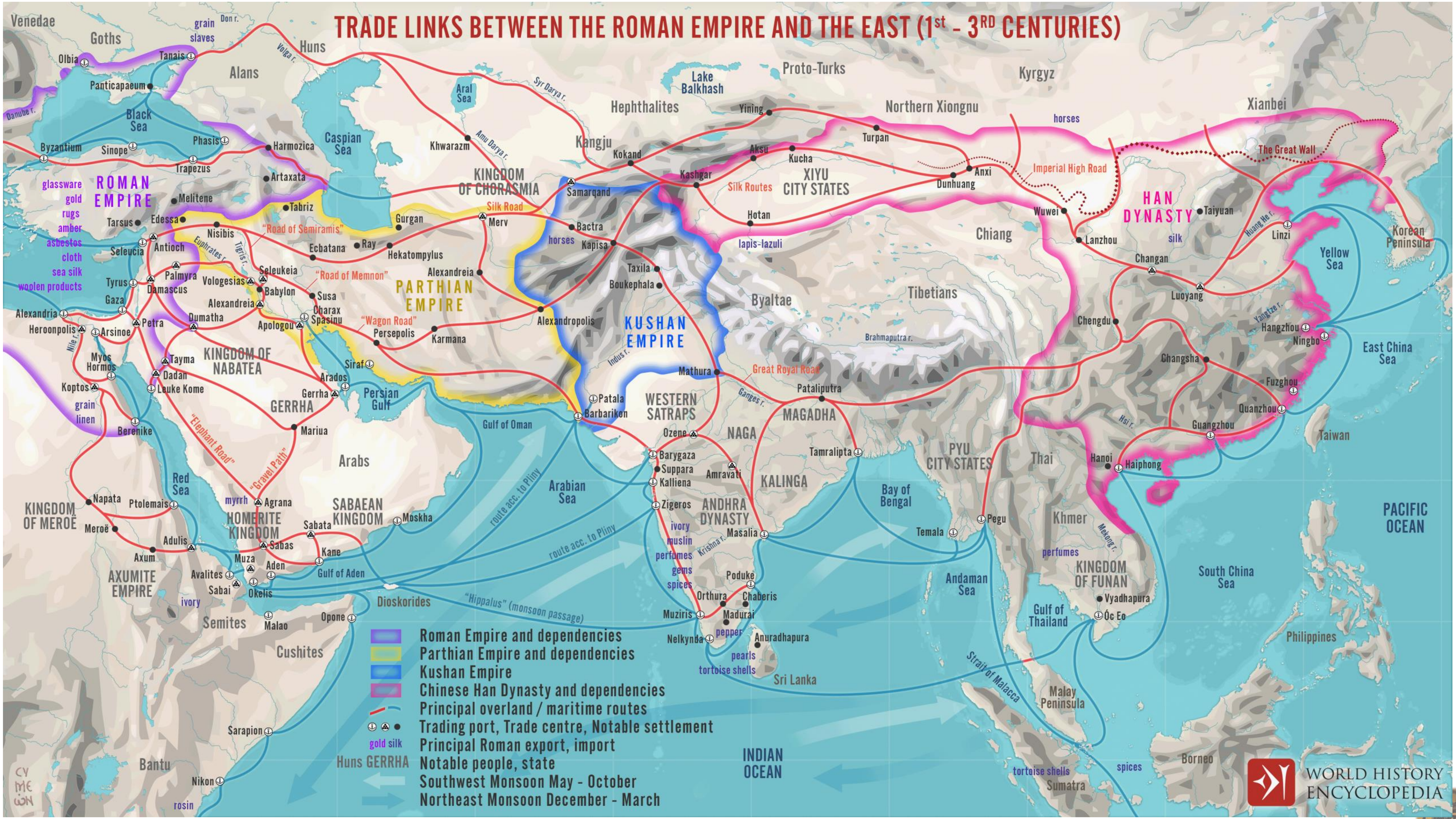
this country, as it is reported, both the Gerrhaeans and Minaeans convey from Upper Arabia, as it is called, both the frankincense and the other aromatic wares.

43. The coast which comes next was originally inhabited by the Maranitae, and then by the Garindanes who were their neighbours. The latter secured the country somewhat in this fashion: In the above-mentioned Palm-grove a festival was celebrated every four years, to which the neighbouring peoples thronged from all sides, both to sacrifice to the gods of the sacred precinct hecatombs of well-fed camels and also to carry back to their native lands some of the water of the place, since the tradition prevailed that this drink gave health to such as partook of it. When for these reasons, then, the Maranitae gathered to the festival, the Garindanes, putting to the sword those who had been left behind in the country, and lying in ambush for those who were returning from the festival, utterly destroyed the tribe, and after stripping the country of its inhabitants they divided among themselves the plains, which were fruitful and supplied abundant pasture for their herds and flocks. This coast has few harbours and is divided by many large mountains, by reason of which it shows every shade of colour and affords a marvellous spectacle to those who sail past it.

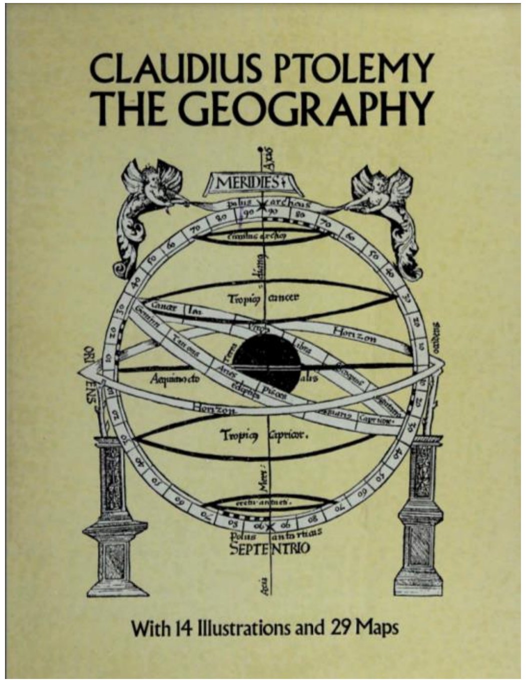
After one has sailed past this country the Laeanites Gulf[1] comes next, about which are many inhabited villages of Arabs who are known as Nabataeans. This tribe occupies a large part of the coast and not a

[1] Diodorus turns north into the modern Gulf of Akaba, the " Aelanites " Gulf of Strabo 16. 4. 18.

(https://www.worldhistory.org/Periplus_of_the_Erythraean_Sea/)



(https://www.worldhistory.org/Silk_Road/)



CLAUDIUS PTOLEMY
THE GEOGRAPHY

TRANSLATED AND EDITED BY
EDWARD LUTHER STEVENSON

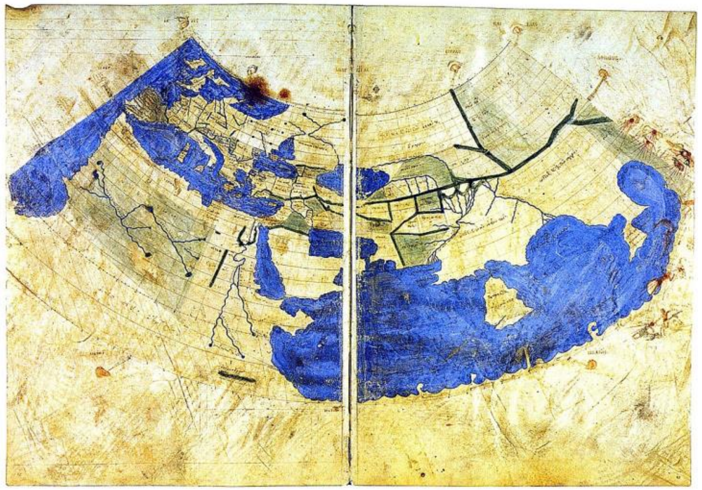
WITH AN INTRODUCTION BY
PROF. JOSEPH FISCHER, S.J.

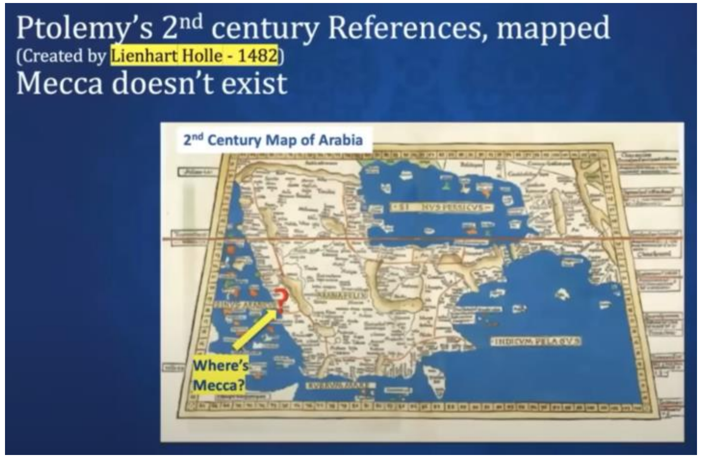
DOVER PUBLICATIONS, INC.
NEW YORK

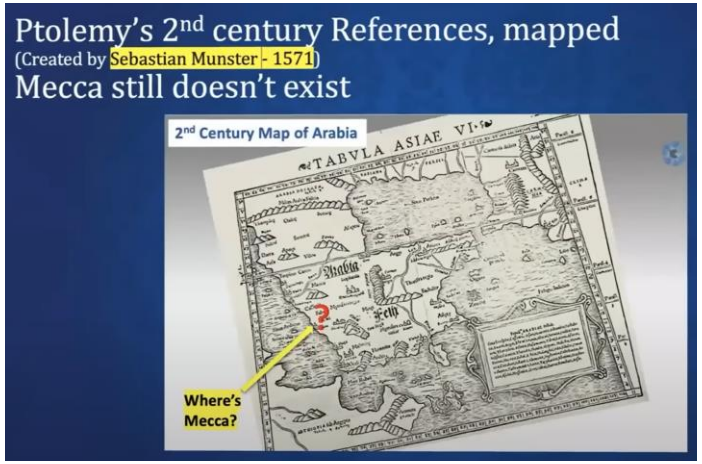
and the *Thamydeni;* then around the Zames mountains and toward the west from this are the *Apataei* and the *Atritae*, and near these the *Mesamanes* and the *Udeni;* toward the east are the *Laeeni*, the *Asapeni* and the *Iolysitae;* to the south are the *Catanitae*, then the *Thanuitae;* from these toward the west the *Manitae*, above whom are the *Alapeni*, and near Cinaedopolita the *Malichae*. And below the *Manitae* is the Smyrnofera interior region; then the *Minaei*, a numerous race, below whom are the *Doreni* and the *Mocritae;* then the *Sabaei* and the *Anchitae* above the Climax mountains; around the Marithos mountains are the *Malangitae* to the north, and the *Dachareni*, the *Zeiritae*, then to the south the *Bliulaei* and the *Omamitae*, from whom to the river source are the *Cottabani* as far as the Asabon mountains, below whom is the Libanotofora region; then near the Sachalita region are the *Iobaritae;* below the *Gerraei* are the *Alumaeotae*, then the *Sophanitae* and the *Cithibanitae*, and extending as far as Climax mountains the *Arabanitae;* below all these the *Chatramonitae* from the Climax mountains even to Sachalitas; toward the south from the Climax are the *Masonitae;* then the *Asaritae*, and near Homerita the *Sappharitae* and the *Ratheni*, above whom are the *Maphoritae*, thence to the beginning near the *Chatramonitae* is the Smyrnofera exterior region; near Syagrum as far as the sea are the *Ascitae*.

The towns and villages which are in Arabia Felix in the interior are the following:

Aramava	67	30	29	10
Ostama	69	30	29	
Thapava	71	40	29	
Macna	67		28	45
Angala	68	15	28	45
Madiama	68		28	15
Achrona	70		28	15
Obraca	71	30	28	20
Rhadi village	73	30	28	30
Pharatha	73	40	28	40
Satula	77	30	28	10
Laba	68	10	27	40
Thaema	71		27	
Gea town	71	15	27	20
Aina	75	40	27	20
Lugana	76	30	27	15
Gaesa	78	40	27	15
Soaca	68		26	15
Egra	70	30	26	
Salma	74	30	26	
Arra village	75	40	26	10
Digema	77		26	30
Saptha	78	15	26	20
Phigea	79		26	
Badais	68	30	25	30
Ausara	71		25	30
Iabri	74	30	25	
Alata	77	20	25	30
Mochura	69	40	24	30
Thumna	71	10	24	50
Alvara	71		24	15
Phalbinum	73	15	24	
Salma	73	20	24	20
Gorda	76	10	24	30
Marata	79	20	24	20
Ibirtha	79	40	24	40
Lathrippa	71	40	23	20
Carna	73	30	23	15
Biavanna	76	30	23	
Goeratha	77	40	23	
Catara	79	30	23	20
Baeba	71	30	22	30
Macoraba	73	20	22	
Sata	81	10	22	20
Masthala	81	45	22	30
Domana	82	20	22	30
Atia	85		22	15
Ravana regia	87		22	
Chabuata	89	15	22	
Thumata	74	20	21	20
Olaphia	77	40	21	45
Inapha	79	10	21	40
Tiagar	85		21	20
Aspa	91		21	
Agdamum	73	30	20	20
Carman regia	75	15	20	15
Irala	80	20	20	15
Maocosmus metropolis	81	15	20	40
Labris	82		20	15
Lattha	83	20	20	15
Accipitrum village	84	30	20	30
Albana	71	30	19	15
Chargatha	73	10	19	15
Laththa	75	20	19	20
Omanum market town	87	40	19	45
Marasdu	74	30	18	30
Mara metropolis	76		18	40
Amara	78	30	18	40
Nagara metropolis	81	45	18	40
Iula	85	20	18	15
Magulaba	75	30	17	

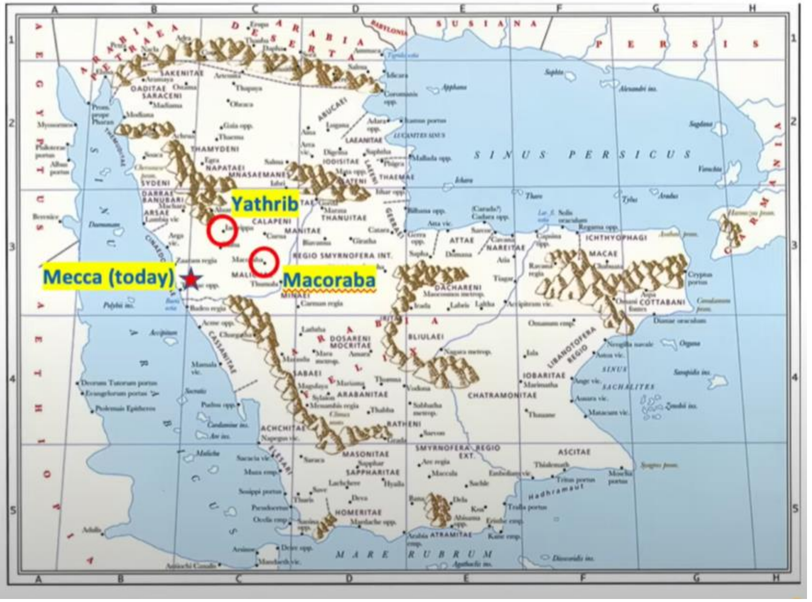






PTOLEMY'S 'MACORABA': 2nd c. AD?

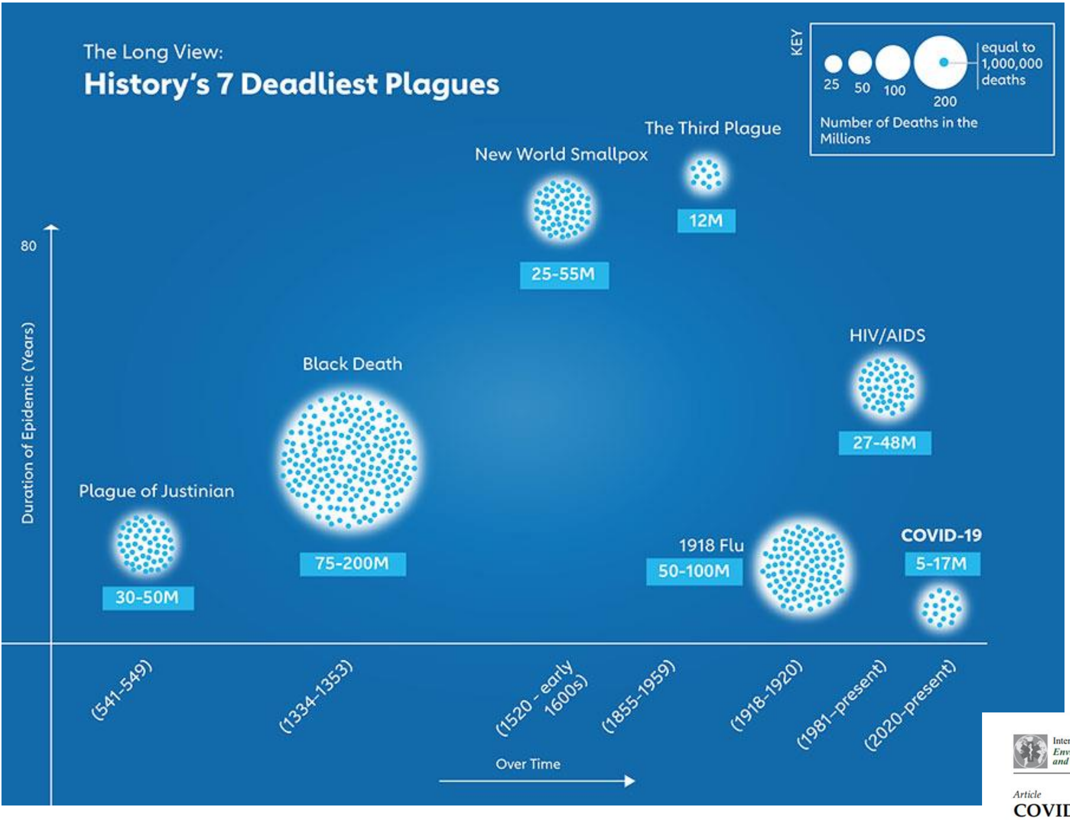
- **Claudius Ptolemy**, a Greek writer and geographer from Alexandria, in Egypt, wrote **A Guide to Geography** between 141 AD - 147 AD.
- In it he gave co-ordinates for a place called 'Macoraba' as 73º 20º 22º.
- Notice **Ptolemy's map** (on the right)
- **Macoraba** is southeast of **Yathrib**
- Yet, **Mecca** is southwest of **Yathrib**
- If Macoraba is Mecca, then he's misplaced it
- So, why do we think Macoraba is Mecca?



Dan Gibson's solution

- Gibson matched Ptolemy's Rivers to the location of the rivers today, to obtain a correct map of Arabia.
- In doing so it became apparent that Ptolemy was not aware of the vastness of the deserts in Arabia's interior, and that he plotted the locations in Yemen too far north.
- By shrinking Ptolemy's map southward, to accommodate the desert, many of his locations suddenly fit.
- Macoraba became Al-Mahabishah
- Macoraba was not only an interior settlement of Arabia, but it turned out to be only a small hamlet situated in the Hadrawmat area of Arabia

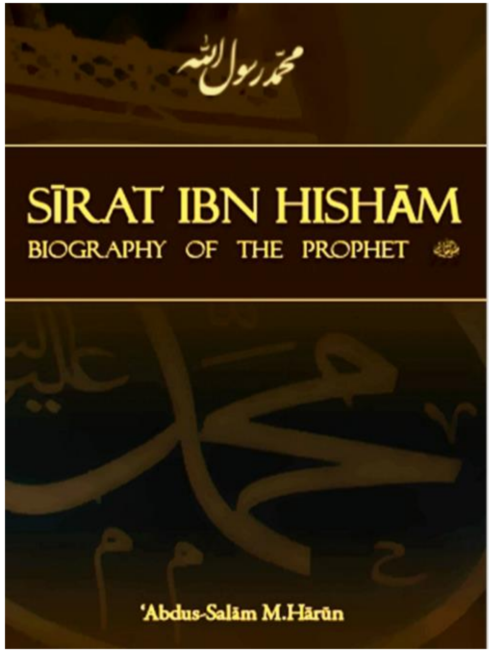
https://digitalmapsoftheancientworld.com/ancient-maps/ptolemys-map/
https://crouchrarebooks.com/product/map/a-striking-map-of-arabia-from-the-1482-ulm-ptolemy/



Plague of Justinian: 30-50 million people (541-549)

The disease – now confirmed to be bubonic plague – reached Constantinople, capital of the Late Roman or Byzantine Empire, in 541 AD. It was soon killing 10,000 people a day. Corpses littered public spaces and were stacked like produce indoors. It was perhaps the first major outbreak of bubonic plague the world had seen and the record suggests that it extended across continents, reaching Roman Egypt, the Mediterranean, Northern Europe and the Arabian Peninsula. Recent scholarship analysing scientific findings alongside textual and numismatic records points to the possibility that it may have left an even further-reaching imprint on the early medieval world than previously understood.

(https://www.gavi.org/vaccineswork/historys-seven-deadliest-plagues)



International Journal of Environmental Research and Public Health
MDPI

Article

COVID-19: Detecting Government Pandemic Measures and Public Concerns from Twitter Arabic Data Using Distributed Machine Learning

Ebtesam Alomari [1], Iyad Katib [1], Aiiad Albeshri [1] and Rashid Mehmood [2,*]

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[2] High Performance Computing Center, King Abdulaziz University, Jeddah 21589, Saudi Arabia
* Correspondence: RMehmood@kau.edu.sa

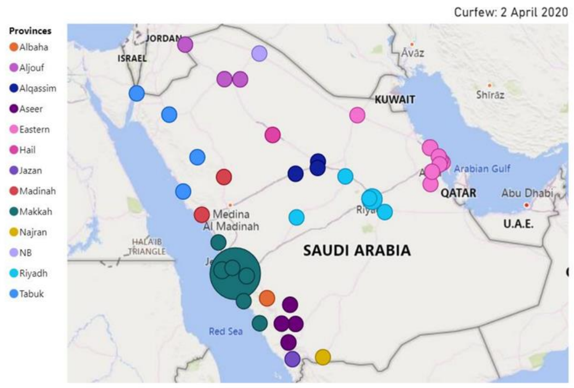


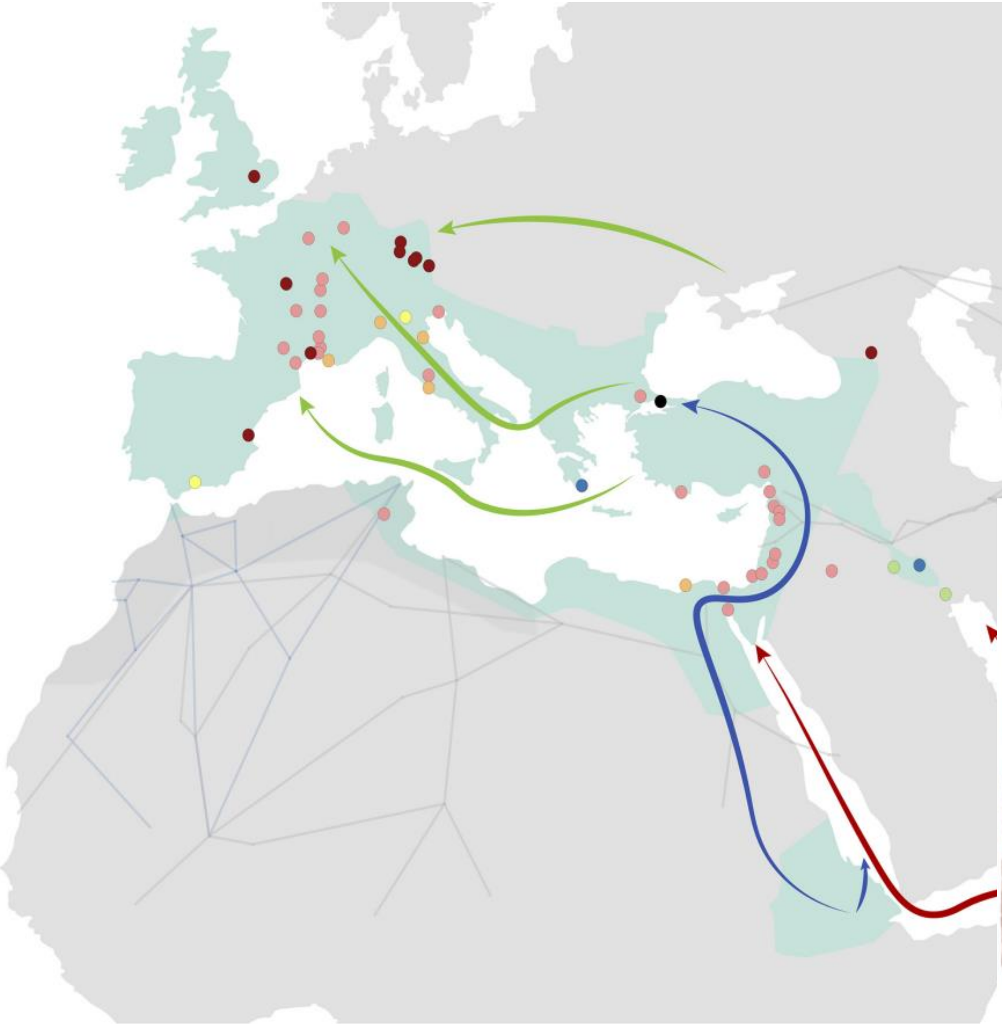
Figure 13. Spatio-temporal behavior of public concern (curfew: 2 April 2020).

grandfather do?' We disdained because of that. Every woman who came with me got a suckling child except me. Before departure, I said to my husband, 'By Allah, I hate to return among my friends without a suckling baby; I will go and take that orphan.' He said, 'No harm on you if you did; perhaps Allah will bless us through this orphan.' So I went and took him because there was no other alternative but to take him. On my way back, as soon as I put him in my lap, my breasts overflowed with milk, which he drank to his heart's content, and so did his foster brother. Then both of them slept, while before this we could not sleep because of my son's crying. My husband went to the old she-camel to milk it; to his surprise its udders were full; he milked it and we drank of its milk until we were completely satisfied, and we spent a good night. In the morning my husband said, 'Do you know Halîmah that you have taken a blessed child?' I said, 'By Allah, I hope so.'

I carried him with me, as we rode back on my she-donkey, and it went at such a speed that other donkeys could not catch up to it, so that my fellow travelers said to me, 'Woe daughter of Abû Dhu'ayb! Stop and wait for us. Is this not the she-donkey on which you had come with?' 'Sure it is.' I said. They replied, 'By Allah, there is something unusual.' Then we reached our dwellings in Banû Sa`d land, which I had never known a land as barren as it was.

Having him with us, my flock yielded milk abundantly. We milked them and drank at the time when no one could have a drop of milk, nor find anything in their animals' udders. People around us were saying to their shepherds, 'Woe to you! Let your sheep graze where the daughter of Abû Dhu'ayb's shepherd goes.' Still, their flocks returned hungry without even a drop of milk, while mine had milk in abundance. We continued to recognize that this grace was from Allah, until two years had passed, when I weaned him. He was growing up more than any other child did, so by the time he was two he was a strong child. We took him back to his mother, though we were keen to keep him with us because of the blessing and fortune which he brought us. I said to her, 'Would you leave my little boy with me until he becomes bigger, for I am afraid of the epidemic of Makkah which might infect him.' We persisted until she let him go with us.

22

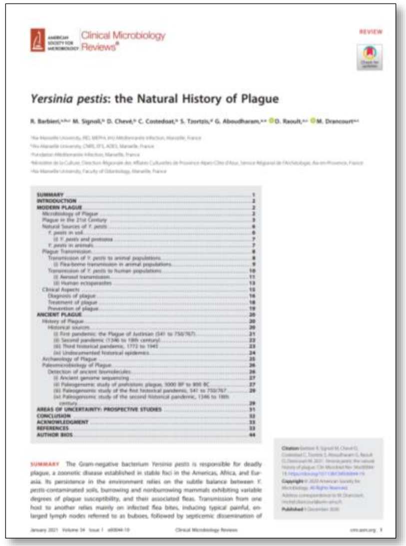


AMERICAN SOCIETY FOR MICROBIOLOGY Clinical Microbiology Reviews®

Yersinia pestis: the Natural History of Plague

R. Barbieri,[a,b,c] M. Signoli,[b] D. Chevé,[b] C. Costedoat,[b] S. Tzortzis,[d] G. Aboudharam,[a,e] D. Raoult,[a,c] M. Drancourt[a]

[a]Aix-Marseille University, IRD, MEPHI, IHU Méditerranée Infection, Marseille, France
[b]Aix-Marseille University, CNRS, EFS, ADES, Marseille, France
[c]Fondation Méditerranée Infection, Marseille, France
[d]Ministère de la Culture, Direction Régionale des Affaires Culturelles de Provence-Alpes-Côte d'Azur, Service Régional de l'Archéologie, Aix-en-Provence, Fra
[e]Aix-Marseille University, Faculty of Odontology, Marseille, France



entire world.[28] Jacob of Edessa says the same thing.[29] The *Chronicle of Séert* knows merely that the plague (*wabā'*) spread throughout Persia, India, and Abyssinia (al-Habasha).[30] According to Michael the Syrian, the plague spread above all in the lands of the south. Michael quotes John of Asia (Ephesus) as saying that it started with the interior (or remote) people of the countries south-east [*sic*] of India, namely Kush (Ethiopia) on the borders of Egypt, Himyar (Yaman), and other places.[31] That the plague visited Yaman appears to be corroborated by the inscription of Abraha on the dam at Ma'rib dated 543 CE, which refers to death and sickness striking the community at Ma'rib; the dam was repaired when the fatal epidemic had passed.[32] Zacharias of Mitylene has the plague starting in Ethiopia on the border of Egypt.[33]

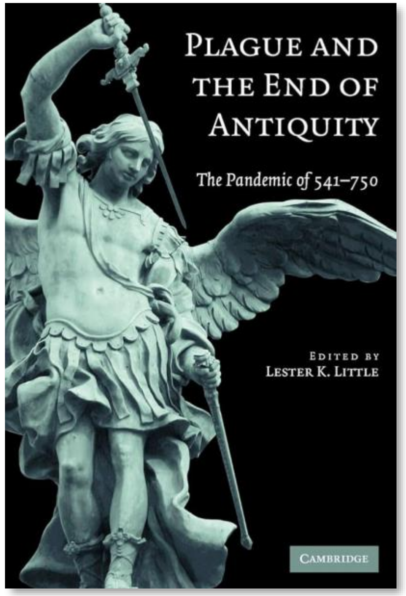
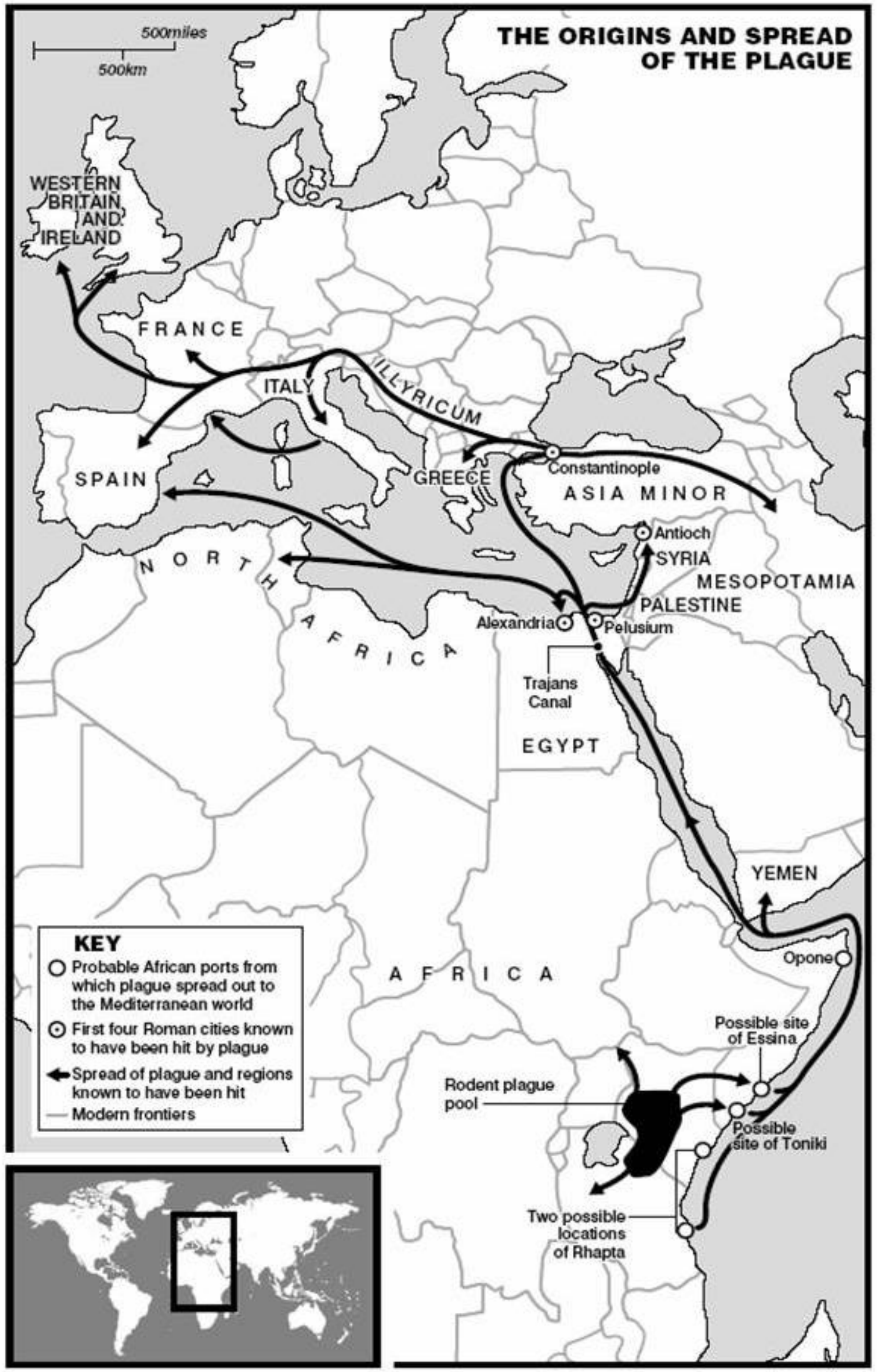


FIG 6 World map of the first plague pandemic (541 to 750/767). Regions historically affected by plague are represented in green, and regions potentially affected by plague (western part of North Africa) are in dark gray. The biological hypothesis of plague diffusion is represented by green (Eastern European origin) and red (Indian origin) arrows, while the debated historical hypothesis of plague diffusion is represented by a blue arrow (Ethiopian origin). The map was generated in QGIS 3.4. The mapped regions and roads are based on the Digital Atlas of Roman and Medieval Civilizations (DARMC; https://darmc.harvard.edu).

https://www.researchgate.net/publication/347459123_Yersinia_pestis_the_Natural_History_of_Plague
https://en.wikipedia.org/wiki/First_plague_pandemic



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Gestion des Sciences de la Vie
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Universiteit Antwerpen
Faculteit Wetenschappen
Departement Biologie
Evolutionaire Ecologie

DIVERSITY, ECOLOGY AND STATUS OF POTENTIAL HOSTS AND VECTORS OF THE PLAGUE BACILLUS *YERSINIA PESTIS*.

CONTRIBUTION TO PLAGUE EPIDEMIOLOGY IN AN ENDEMIC PLAGUE FOCUS: THE LUSHOTO DISTRICT (TANZANIA)

Dissertation for the degree of Doctor in Science (Biology)
at the University of Liège and Antwerpen to be defended by

ANNE LAUDISOIT

Supervisors:
Dr. Roland Libois (ULg)
Prof. Dr. Herwig Leirs (UA)

Liège, 2009.
Antwerpen, 2009.

International Journal of
Environmental Research and Public Health
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Article

COVID-19: Detecting Government Pandemic Measures and Public Concerns from Twitter Arabic Data Using Distributed Machine Learning

Ebtesam Alomari [1], Iyad Katib [1], Aiiad Albeshri [1] and Rashid Mehmood [2,*]

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Abstract: Today's societies are connected to a level that has never been seen before. The COVID-19 pandemic has exposed the vulnerabilities of such an unprecedently connected world. As of 19 November 2020, over 56 million people have been infected with nearly 1.35 million deaths, and the numbers are growing. The state-of-the-art social media analytics for COVID-19-related studies to understand the various phenomena happening in our environment are limited and require many more studies. This paper proposes a software tool comprising a collection of unsupervised Latent Dirichlet Allocation (LDA) machine learning and other methods for the analysis of Twitter data in Arabic with the aim to detect government pandemic measures and public concerns during the COVID-19 pandemic. The tool is described in detail, including its architecture, five software components, and algorithms. Using the tool, we collect a dataset comprising 14 million tweets from the Kingdom of Saudi Arabia (KSA) for the period 1 February 2020 to 1 June 2020. We detect 15 government pandemic measures and public concerns and six macro-concerns (economic sustainability, social sustainability, etc.), and formulate their information-structural, temporal, and spatio-temporal relationships. For example, we are able to detect the timewise progression of events from the public discussions on COVID-19 cases in mid-March to the first curfew on 22 March, financial loan incentives on 22 March, the increased quarantine discussions during March–April, the discussions on the reduced mobility levels from 24 March onwards, the blood donation shortfall late March onwards, the government's 9 billion SAR (Saudi Riyal) salary incentives on 3 April, lifting the ban on five daily prayers in mosques on 26 May, and finally the return to normal government measures on 29 May 2020. These findings show the effectiveness of the Twitter media in detecting important events, government measures, public concerns, and other information in both time and space with no earlier knowledge about them.

Keywords: COVID-19; coronavirus; machine learning; big data; social media; apache spark; Twitter; Arabic language; distributed computing; smart cities; smart healthcare; smart governance; Triple Bottom Line (TBL)

check for updates

Received: 22 November 2020
Accepted: 28 December 2020
Published: 1 January 2021

1. Introduction

The level of digital and physical connectedness of today's societies has never been seen before. We are able to see and talk to people on the other side of the planet as if they are with us. We are able to control machines in the farthest continents using our smartphones. We are able to physically travel across the world in a day. We travel a lot to distant lands and frequently share gifts and viruses with each other.

Unfortunately, the COVID-19 pandemic has exposed the vulnerabilities of this unprecedentedly connected world. The COVID-19 pandemic, or coronavirus pandemic (COVID-19 is the name of the disease), is caused by the virus SARS-CoV-2 (Severe Acute

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Article

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2 High Performance Computing Center, King Abdulaziz University, Jeddah 21589, Saudi Arabia
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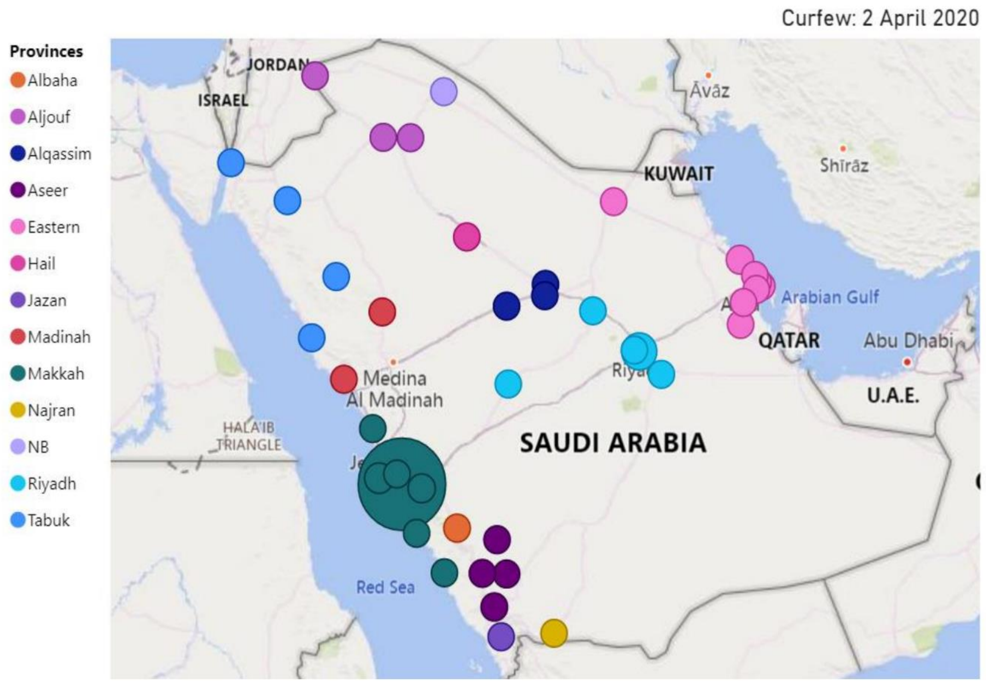
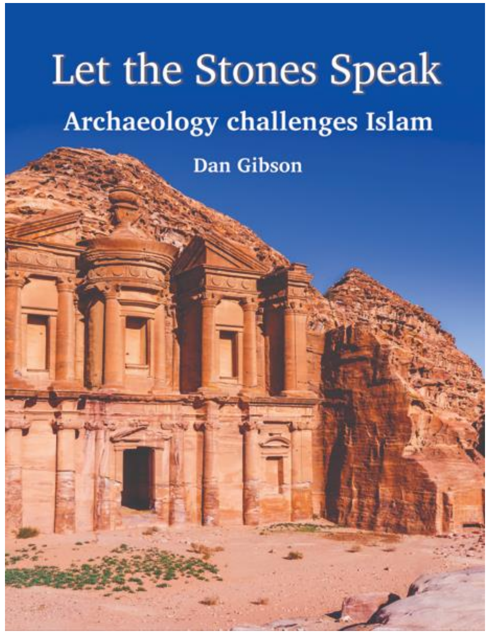
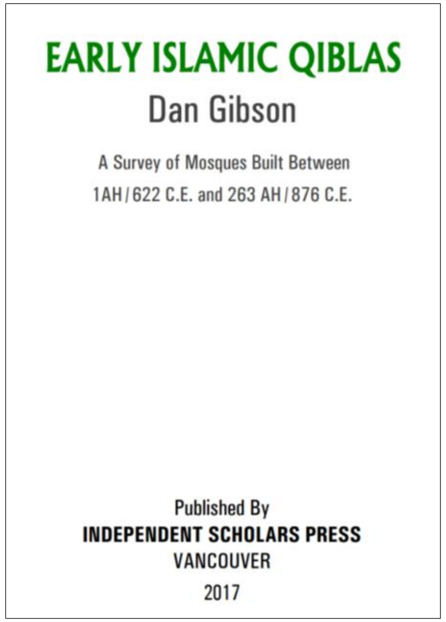


Figure 13. Spatio-temporal behavior of public concern (curfew: 2 April 2020).



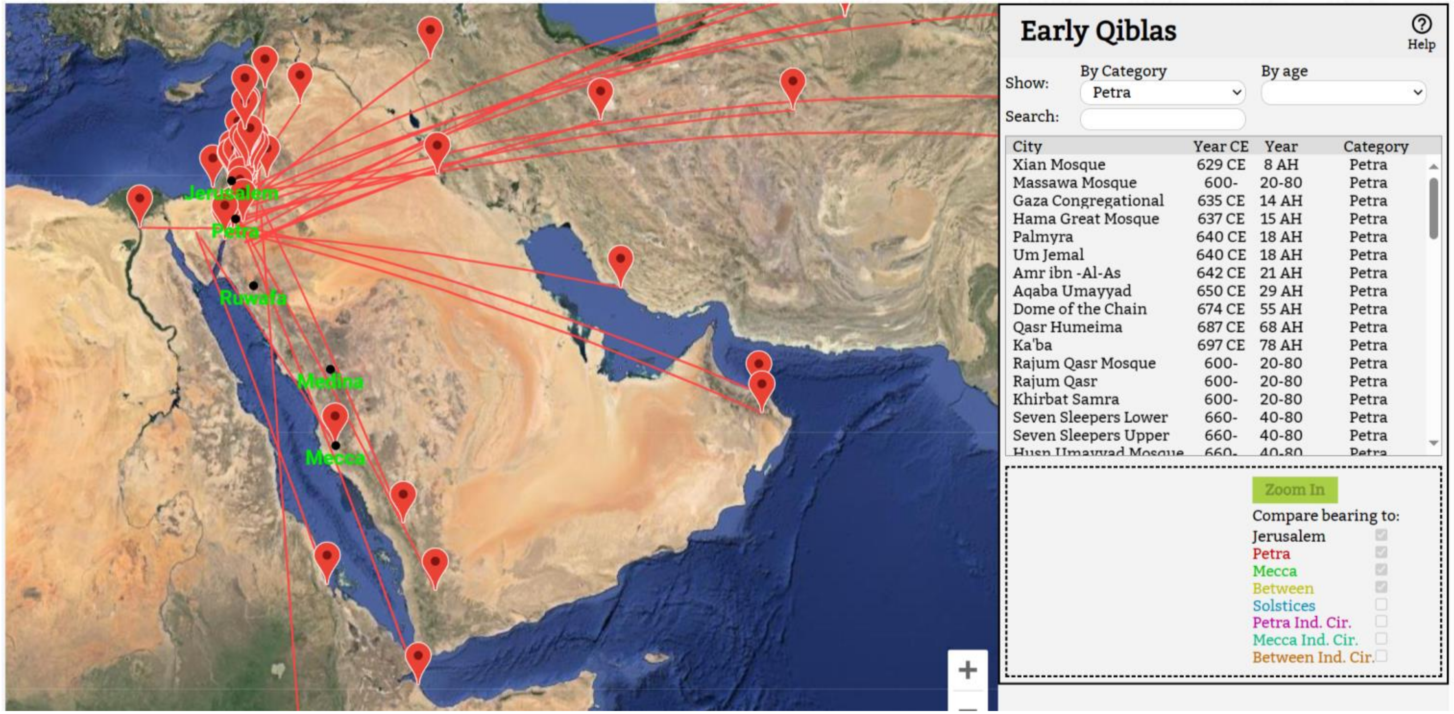


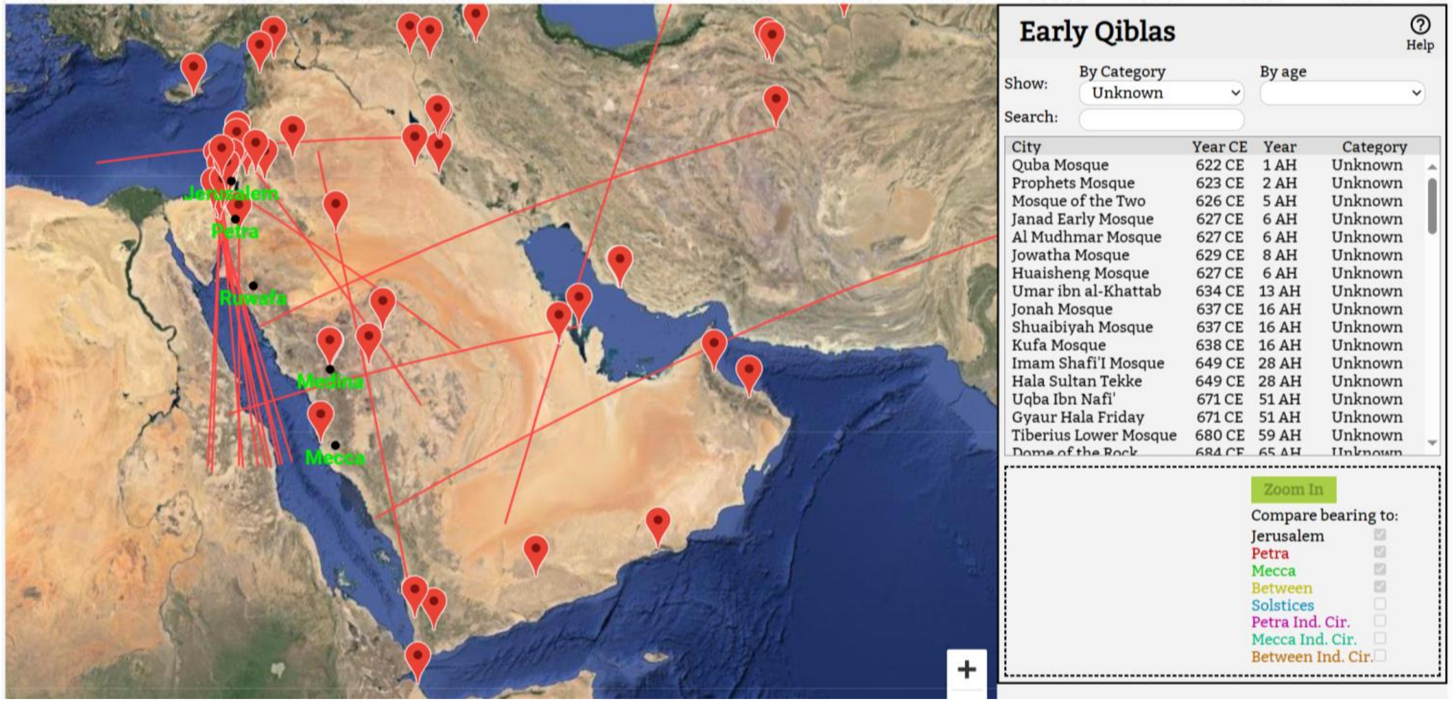
EARLY ISLAMIC QIBLAS

Dan Gibson

A Survey of Mosques Built Between
1AH / 622 C.E. and 263 AH / 876 C.E.

Published By
INDEPENDENT SCHOLARS PRESS
VANCOUVER
2017





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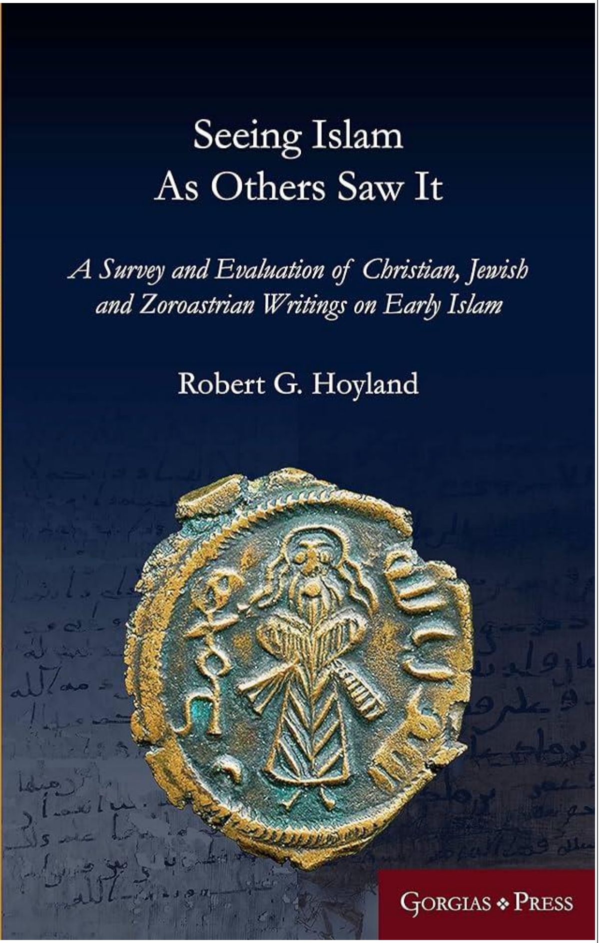


and, as he himself had ordered, left his elder son ʿAbd al-Malik as successor.[63]

§32. {*MGH* §30} With Justinian deposed for tyranny Leontius was crowned in power, the 62nd [emperor] of the Romans. He reigned for 3 years.[64]

§33. {*MGH* §31} After him Apsimarus was appointed 63rd [emperor] of the Romans in that way.[65] He reigned for 8 years.

§34. {*MGH* §32} ʿAbd al-Malik achieved the apex of royal power and ruled for 20 years. In the first year of his reign, applying all his experience and the courage of his mind against ʿAbd Allāh, whom his father had attacked many times in various battles, [he came] finally to Mecca, the home of Abraham as they think, which lies between Ur of the Chaldees and the city of Ḥarran (*Carras*) in the desert. When a clash was initiated, king ʿAbd Allāh was killed by the general of the army, *Tahihis* by name, appointed by the king ʿAbd al-Malik, and the head of the aforementioned king ʿAbd Allāh was cut off and presented to ʿAbd al-Malik, the son of king Marwān, by the army general *Aiais* in Damascus.[66] So in the sixth year of the aforesaid ruler, after the internal struggles had been settled everywhere round about, he very wisely turned upon the territory of external enemies, for he had made tributary to his authority the provinces, cities, estates, towns and forts of many peoples. And his brother (ʿAbd al-ʿAzīz), already mentioned above[67]—to whom his father had handed over power from the borders of Egypt to the Gaditan straits and given orders that he be successor to the rule after him (ʿAbd al-Malik)—was cut off by a fatal accident. He (ʿAbd al-Malik), nevertheless, settled the rule on his own

[63]= *Chron. Hisp. 754*, §27 (= Pereira/Wolf, §33). Enough is the same to make it likely that the two chronicles are still relying on their common source, but *Chron. Hisp. 754* massively abbreviates it here.

[64]= *Chron. Hisp. 754*, §35 (= Pereira/Wolf, §42).

[65]Meaning that Apsimarus, like Leontius, came to power by a coup. Cf. *Chron. Hisp. 754*, §38 (= Pereira/Wolf, §46); the notice is too short to establish borrowing.

[66]Both *Tahihis* and *Aiais* must be attempts to convey Ḥajjāj, perhaps distorted by the local pronunciation of "j." Cf. *Syriac CS*, *s.a.* 692; Ṭabarī, 2.829–30; Balādhurī, *Ansāb*, 5.357. Ibn ʿAbd Rabbihi, *ʿIqd*, 5.166, confirms that it was Ḥajjāj who despatched the rebel's head to the caliph in Damascus.

[67]This seems to be the sense, but the text has "sent on ahead above (*supra praemissum*)."

مركز الملك فيصل للبحوث والدراسات الإسلامية
King Faisal Center for Research and Islamic Studies

7

Qiraat

Rabi I - II, 1438
December 2016 - January 2017

The First Chinese Travel Record on the Arab World

Commercial and Diplomatic Communications during the Islamic Golden Age

WAN Lei

Research Fellow
King Faisal Center For Research and Islamic Studies

III. Text Translation

1. In the eighth month of the second year of the Yonghui reign [of the Tang dynasty] [between June 21-July 19, 651 CE], *Dashi-guo* [Arab Caliphate] starts to dispatch its envoys to pay tribute [to the Tang court].

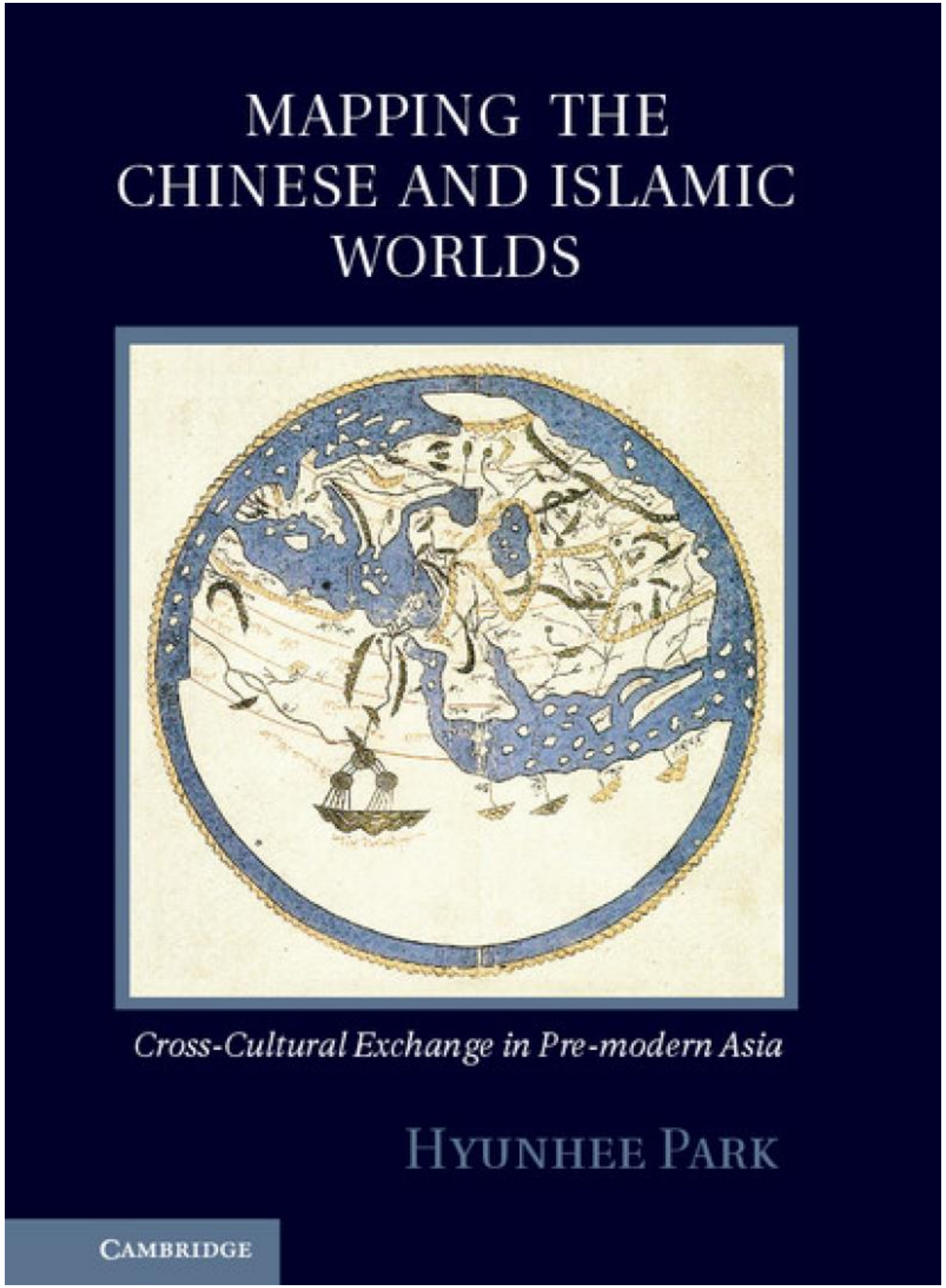
   — *Cefu Yuangui* [*Archival Palace as Great Tortoise Oracle*], Scroll 970/ *waichen-bu* [the ministry of local officials] 15/ *chaogong* [Tributes] 3. (p.11232)

2. In the sixth month of the sixth year [of the Yonghui reign] [between April 24-May 22, 655 CE], *Dashi-guo* [Arab Caliphate] and *Yan-mo-nian*[1]dispatch their envoys to pay tribute [to the Tang court].

   — *Cefu Yuangui*, Scroll 970/ *waichen-bu* 15/ *chaogong* 3. (p.11232)

   Remark: Here "*Dashi-guo*" is probably "*Da-shi-guo*;" the two countries use different characters (but same pronunciation in Chinese); the former refers to Arab Caliphate and the latter, "Tachkend," which is in the present-day Uzbekistan. In this context, it uses the character "*Da-shi-guo*," which

(1) Zhou Baoming argues that *Yan-mo-nian* is a tribe of the Kurluk (Qarluq) in central Asia.



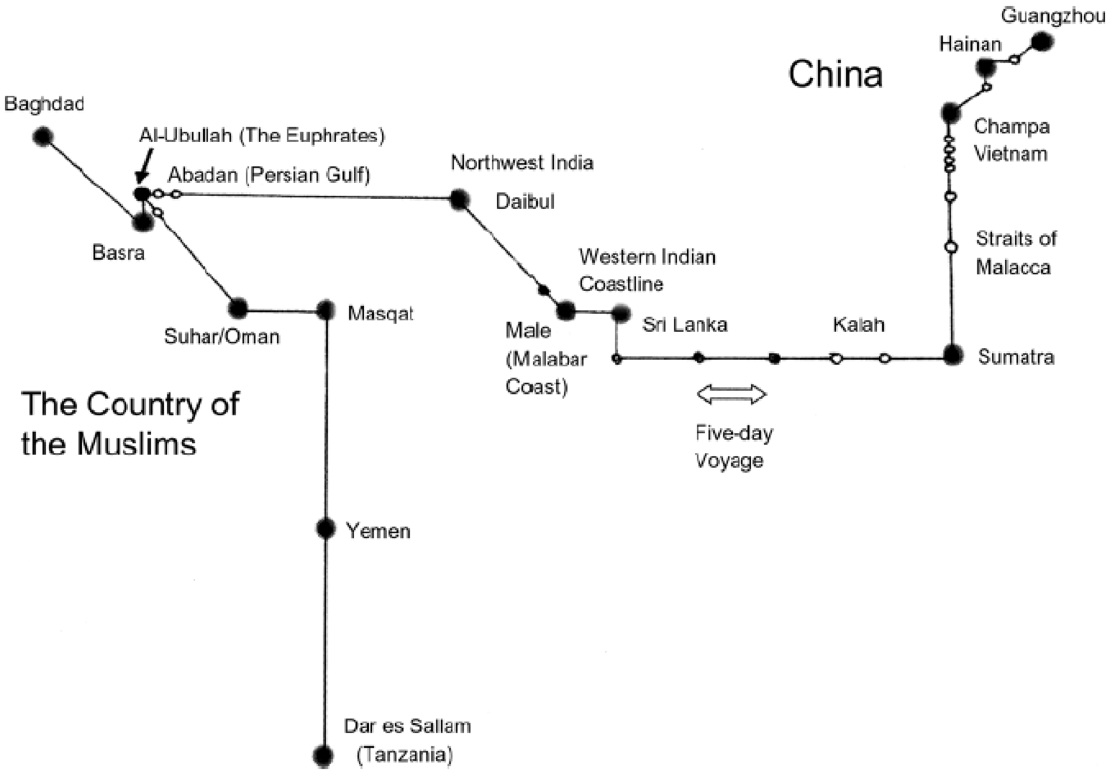


FIGURE 1.2. The route from Guangzhou to foreign countries as envisioned by Jia Dan (circa 800).

merchants from the Islamic world. As they sailed along the coast between China and the Islamic world, they probably provided information about sailing routes and trade goods with the Chinese they encountered. Only one such short account – "The Route to the Foreign Countries across the Sea from Guangzhou" (Guangzhou tong haiyi dao) compiled around 800 by Jia Dan (729–805) – survives today. Court historians included it in the geography (*dili*) section of the *New History of the Tang Dynasty*.[31]

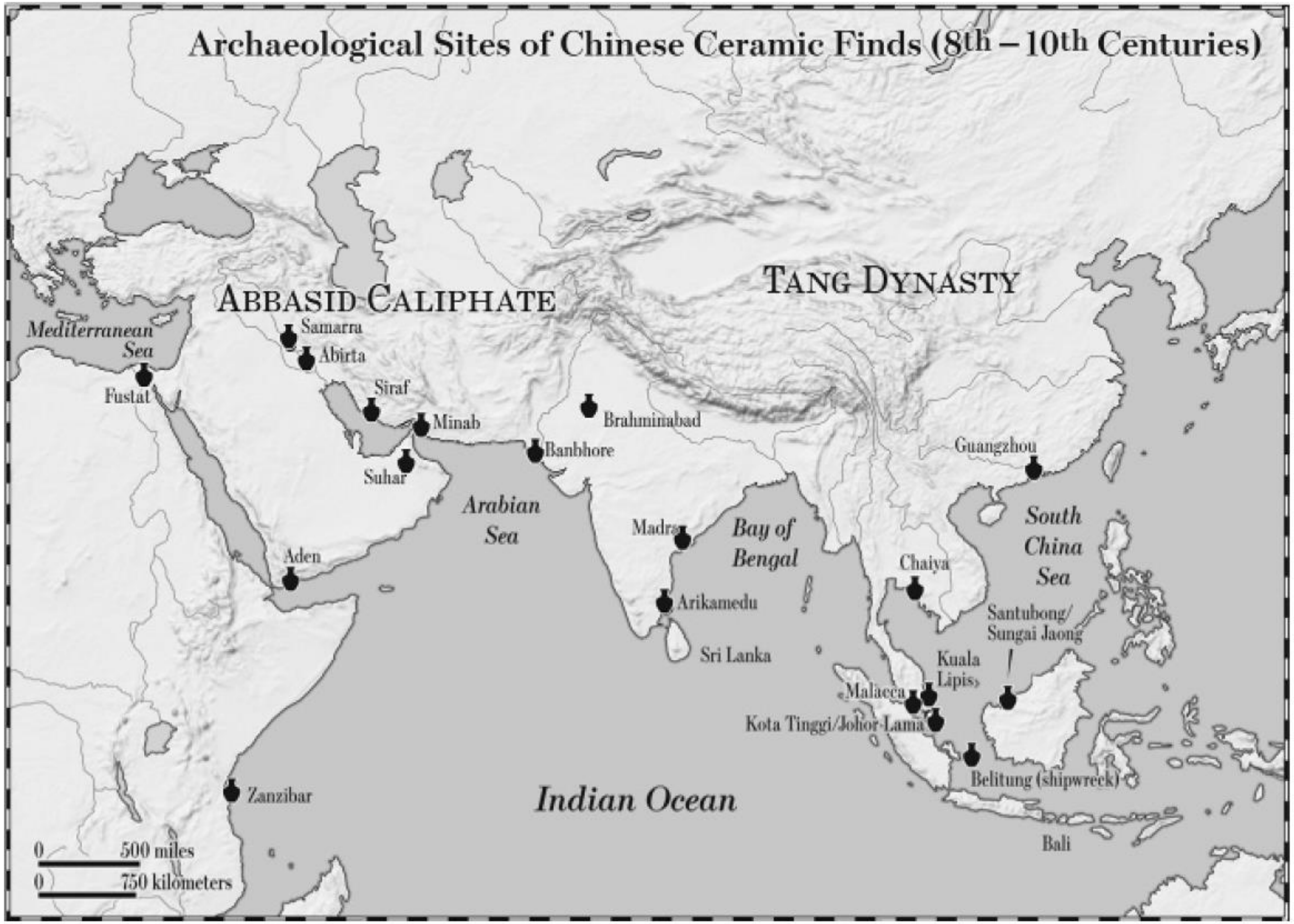


FIGURE 1.1. Archeological sites containing Chinese ceramics, dated 8th–10th centuries.

Chinese Ceramics in the Islamic World from the 8th to 10th Centuries CE

Wen Wen

Merton College

University of Oxford

A thesis submitted for the degree of Doctor of Philosophy

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School of Archaeology

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Table 4.1 Sites in the Islamic World with Chinese Ceramic Finds

Red circles	Blue circles	Green circles	Yellow circles
1 Alexandria	3 Monastery of Wadi al-Tur	21 Jabalayn	4 Raya
2 Fustat	18 Tell Shaykh Salim	23 al-Tariya	5 Ashkelon
6 Jerusalem	19 Kadumat am-Sha'ibi	24 al- Quraya	7 Aqaba/ Ayla
12 Al-Mabiyat	22 al-Qaraw	27 Habil	8 Aynunah
54 Fayd	33 Kawd am-Saila	40 Khatt	9 Khuraybah
57 Raqqa	34 Socotra	41 Jazirat al-Hulayla	10 Bar Antar
59 Apamea	38 Samda	42 Kush	11 Quseir al-Qadim
60 Antioch	39 Arja	45 al-Na'man	13 Aydhab
61 Samarra	43 Julfar	46 al-Hasa	14 al-Hawra'a
62 Ctesiphon	44 Jumeira	47 Dhahran	15 Sirrin
63 Kufa	49 Barbar	48 Qatif	16 Aththar
64 Wasit	50 Qal'at al-Bahrain	51 Jidd al-Hajj	17 Zabid
66 Basra	52 A'Ali	73 Tell Zibid	20 Aden
67 Susa	53 Bilad al-Qadim	74 Shah Abdallah	25 Sharwayn
68 Jundi Shapur	55 Zubalah	75 Mahruban	26 Abyan
69 Kangavar	56 Qasr al-Hayr East	76 Tell Moragh	28 Shihr
70 Rayy	58 Hama	79 Gharibou	29 Sharma
71 Gurgan	81 Qasr-i-abu Nasr	84 Tal-i-Sabz	30 Khalfat
72 Nishapur	87 Qal'at Abd al-Rahman	85 Shilau	31 Sayhut
80 Istakhr		88 Ziarat	32 Hayrij
101 Sirjan		89 D10	35 al-Hamr al-Sharqiya
103 Jiruft		90 Neran	36 Ra's al-Hadd
		91 Gurzeh	37 Sohar
		92 Tavuneh	65 Hira
		93 Tell Muveh	77 Rishahr
		95 Ruvan	78 Bushire
		96 B10	82 Bibi Khatun
		97 Shenas	83 Daiyir
		98 Bostaneh	86 Siraf
		99 Qeshm	94 Qais
		100 Suru	
		102 Rayin	
		104 Shahr-i-daqianus	
		105 Mashiran	
		106 Saravan	
		107 Nakhl Ibrahim	
		108 Tappa-i-surkh	
		109 Gishnau	
		110 T. Gishnu	
		111 Akhtar	
		112 Minab	
		113 T. Qaleh Kucheck	
		114 T. Cheraghabad	
		115 Hakemi	
		116 Tiz	

Chapter 4: The Distribution Patterns of Chinese Ceramics in the Islamic World

Settlement Type	With Chinese Ceramic	Without Chinese Ceramic
City	●	◆
Town/ church/monastery/ palace	●	◆
Small settlement/village	●	◆
Port	●	◆

Site: Nishapur نیشابور

Co-ordinates: Lat.36.21, Long.58.79

Location: Khurasan, Iran

Type of Settlement: important ancient city

Site history: The city was founded in the Sasanian period and destroyed in the 13th century CE during the Mongol invasion and by several earthquakes.[320]

History of investigation: It was excavated by the Iranian Expedition of the Metropolitan Museum of Art from 1935 to 1947. Half of the finds were transported to the Bastan Museum in Tehran; the remaining went to the Metropolitan museum.[321]

Chinese ceramic finds:

Qnt.	Identified as	Illustration	Comments
Unknown	Chinese ceramics found in Nishapur dated to the 8th and 10th centuries CE include "ivory and cream white porcelanous wares" (fig.3.8), Yue ware (fig.3.8), other green glazed stoneware (fig.3.9), "Tang mottled wares", white wares with green splashes (fig.3.7), white wares splashed with bluish green, purple and yellow (fig.3.7 middle), Changsha ware (fig.3.6). [322]	Yes	The mottled ware mentioned by Wilkinson is also named as Sancai ware in many publications. Those splashed wares mentioned are also sometimes treated as a type of Sancai wares. Metropolitan museum dates the green splashed ware fragment with a dragon medallion to the late 7th and early 8th centuries CE, which now seems to be too early. Similar pieces can only be dated to the early 9th century CE (see detail in Chapter 6, Section 6.6.2). Besides, fragments with accession number 40.170.456c in Metropolitan museum from Nishapur have not been identified and are dated to the 9th and 10th centuries CE. These two pieces are highly likely to be

319 Priestman 2005, 307-8.
320 Wilkinson 1973, xxiii.
321 Wilkinson 1973, xxiii.
322 Wilkinson 1973, 255.

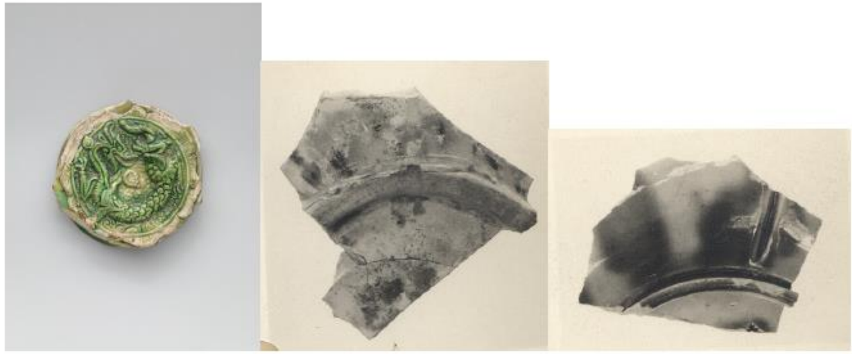

Fig. 3.7 Left: Chinese Green Splashed Ware Fragment, Accession Number: 38.40.274; Middle: Chinese Splashed Ware Fragment, Accession Number 40.170.456g; Right: Chinese Green Splashed Ware Fragment, Accession Number: 40.170.456h. ©Metropolitan Museum

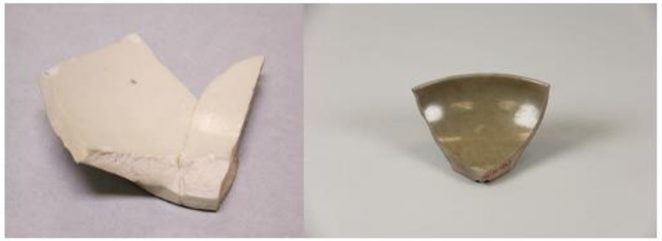

Fig. 3.8 Left: Early Chinese White Porcelain Fragment, Accession Number: 40.170.456e; Right: Chinese Yue Ware Fragment, Accession Number: 40.170.456f ©Metropolitan Museum

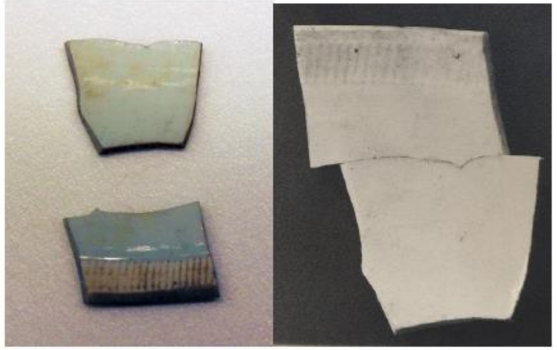

Fig. 3.9 Chinese Jun Ware Fragments, Accession Number: 40.170.456c ©Metropolitan Museum

JRAS, Series 3 (2023), 1–25
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ARTICLE

Processes of the circulation of Chinese wares in the Middle East during the Abbasid-Chinese ceramic exchange, eighth–tenth centuries CE

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Independent scholar
Email: wenwencrystal@gmail.com

Abstract

This article examines the different mechanisms of the circulation of Chinese ceramics in the Middle East during the Abbasid-Chinese ceramic exchange during the eighth–tenth centuries CE. Although trade has been used conveniently to denote the circulation of Chinese wares in the Abbasid Caliphate, it is not the only mechanism that existed. There were also other possible processes of circulation, such as ceramics sent as tributes, diplomatic gifts, and samples, and secondary distribution through looting and pilgrimage. Not all Chinese wares shipped to the Middle East were luxury goods. Different types of Chinese wares had different functions and commercial and aesthetic values in the Middle East. It is an oversimplification to describe the circulation of Chinese wares in the Middle East as merely the result of the luxury goods trade.

Keywords: Exchange; circulation; trade; ceramic; Abbasid; Chinese; Middle East; Indian Ocean

The current debate relating to the so-called 'Samarra Horizon' mainly focuses on the visual similarities between some Chinese ceramics and Islamic glazed ceramics and whether China or the Abbasids initiated individual ceramic styles and techniques. The broader question regarding the mechanisms of the circulation of Chinese wares in the Middle East during this Abbasid-Chinese ceramic exchange has not yet been explored sufficiently. Trade has been used as a convenient explanation for the circulation of Chinese wares in the Abbasid Caliphate. These Chinese wares tend to be indiscriminately described as 'luxury goods'. It is necessary to interrogate these existing preconceptions rather than simply use them without question. Trade was inevitably the primary driver behind the circulation of Chinese wares in the Middle East during the eighth to tenth centuries CE, yet there were also several other possible drivers than merely commercial interest.

Exchange, trade, processes of circulation, and luxury goods

Exchange and trade

Cultures in ancient times unavoidably interacted with each other. Their interactions can be identified by the presence of components of one culture within another.[1] The intensity

[1] G. D. Mumford, 'International Relations between Egypt, Sinai, and Syria-Palestine during the Late Bronze Age to Early Persian Period (dynasties 18–26: c.1550–525 B.C.): A Spatial and Temporal Analysis of the Distribution and Proportions of Egyptian(izing) Artefacts and Pottery in Sinai and Selected Sites in Syria-Palestine', (unpublished PhD dissertation, University of Toronto, 1998), p. 2.

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Appendix 1: Arab delegates to the Chinese Tang court, seventh–eighth centuries CE

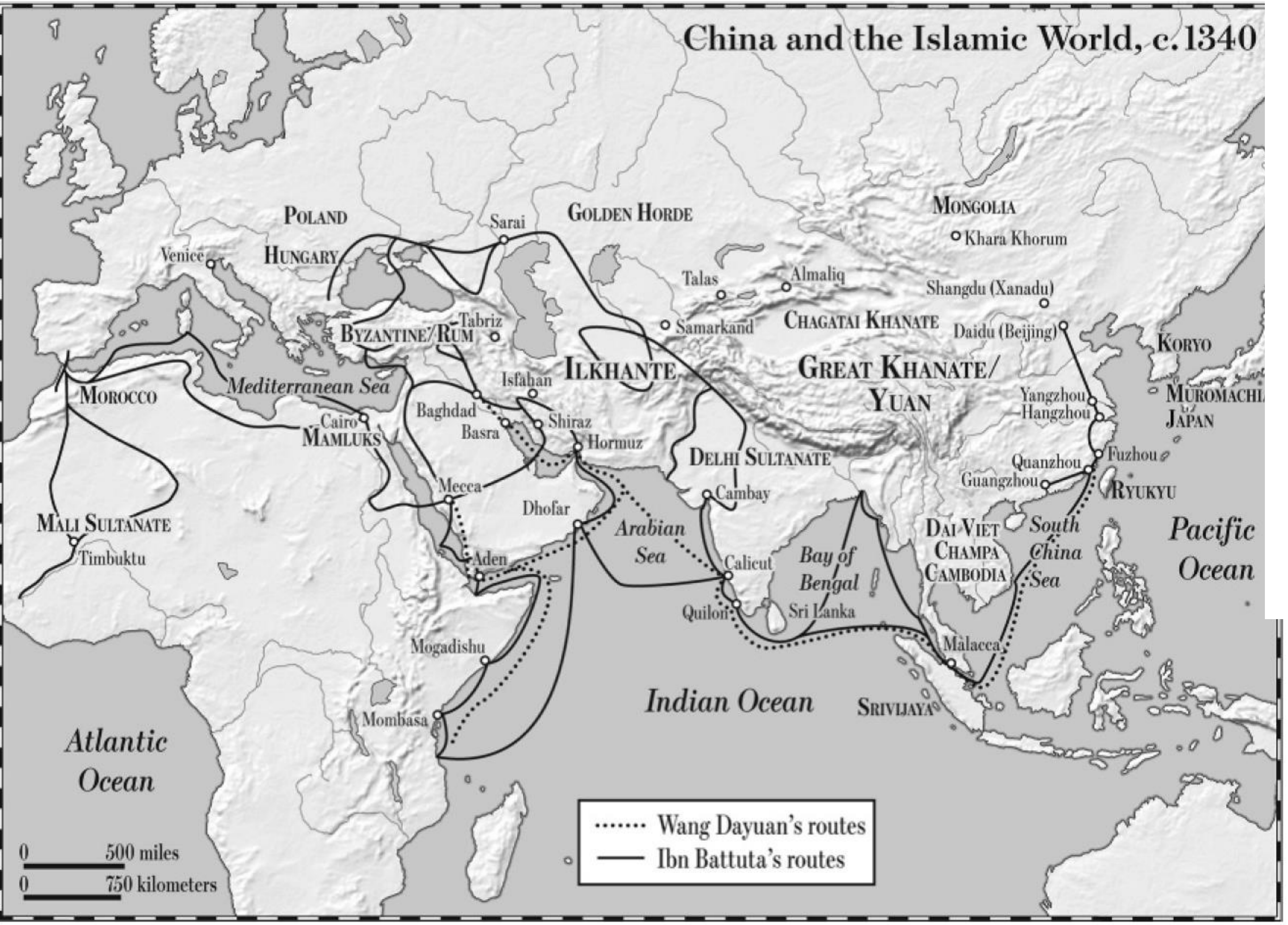
Time	Delegate	Gifts for the Chinese court
August of the second year of Yonghui (651 CE)	Arab Caliphate	
June of the sixth year of Yonghui (655 CE)	Arab Caliphate	
May of the second year of Yonglong (681 CE)	Arab Caliphate	Horses and local products
May of the first year of Yongchun (682 CE)	Arab Caliphate	Local products
The third year of Chang'an (703 CE)	Arab Caliphate	Horses
The second year of Jingyun (711 CE)	Arab Caliphate	Local products
July of the fourth year of Kaiyuan (716 CE)	Arab Caliphate	One gold thread robe, one jade, and one glass bottle
June of the seventh year of Kaiyuan (719 CE)	Arab Caliphate	
March of the twelfth year of Kaiyuan (724 CE)	Arab Caliphate	Horses and Dipterocarpaceae
May of the thirteenth year of Kaiyuan (725 CE)	Arab Caliphate	Local products
March of the thirteenth year of Kaiyuan (725 CE)	Arab Caliphate	Local products
March of the sixteenth year of Kaiyuan (728 CE)	Arab Caliphate	
February of the seventeenth year of Kaiyuan (729 CE)	Arab Caliphate	Local products
December of the twenty-first year of Kaiyuan (733 CE)	Arab Caliphate	
December of the twenty-ninth year of Kaiyuan (741 CE)	Arab Caliphate	
July of the third year of Tianbao (744 CE)	Arab Caliphate	Horses and treasures

(Continued)

Appendix 1: (*Continued.*)

Time	Delegate	Gifts for the Chinese court
May of the fourth year of Tianbao (745 CE)	Arab Caliphate	
May of the sixth year of Tianbao (747 CE)	Arab Caliphate	Six leopards
December of the eleventh year of Tianbao (752 CE)	Abbasid Caliphate	
March of the twelfth year of Tianbao (753 CE)	Abbasid Caliphate	
April of the twelfth year of Tianbao (753 CE)	Abbasid Caliphate	
July of the twelfth year of Tianbao (753 CE)	Abbasid Caliphate	
December of the twelfth year of Tianbao (753 CE)	Abbasid Caliphate	Thirty horses
April of the thirteenth year of Tianbao (754 CE)	Abbasid Caliphate	
July of the thirteenth year of Tianbao (754 CE)	Abbasid Caliphate	
The fifteenth year of Tianbao (756 CE)	Arab Caliphate	
The first year of Zhide (756 CE)	Abbasid Caliphate	
May of the first year of Qianyuan (758 CE)	Abbasid Caliphate	
December of the first year of Qianyuan (758 CE)	Abbasid Caliphate	
December of the first year of Shangyuan (760 CE)	Arab Caliphate	
May of the first year of Baoying (762 CE)	Abbasid Caliphate	
December of the first year of Baoying (762 CE)	Abbasid Caliphate	
January of the fourth year of Dali (769 CE)	Arab Caliphate	
December of the seventh year of Dali (772 CE)	Arab Caliphate	
July of the ninth year of Dali (774 CE)	Arab Caliphate	
January of the seventh year of Zhenyuan (791 CE)	Arab Caliphate	
September of the fourteenth year of Zhenyuan (798 CE)	Abbasid Caliphate	

the Islamic world grew. These two books are Zhou Qufei's *Notes from the Land beyond the Passes* (*Lingwai daida*) [1178] and Zhao Rugua's *Description of the Foreign Lands* (*Zhufan zhi*) [1225]. Both authors

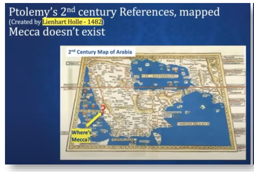


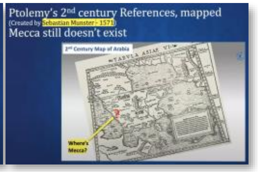
MAP 2 China and the Islamic World, circa 1340.

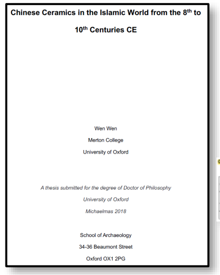
are rich with treasures like gold and silver. Zhou devotes this section to all the countries of Dashi instead of to a single country called Dashi, as was true of Du Huan's account in the eighth century. Perhaps this is because the country Chinese called Dashi disintegrated into multiple centers following the dissolution of the ʿAbbāsid empire since the ninth and tenth centuries. The section begins: "Dashi is a collective name for several countries. There are fully a thousand and more countries, but of those of which we know the names there are only these few."[89] Zhou Qufei demonstrates a precise Chinese understanding of products and way of life in the Islamic world, although not an extensive one. He gives details for only six Muslim countries in his section of Dashi: the countries of Maliba [ma-ljiẹ-b´wăt] (Mirbat in the coast of Hadramaut in modern Oman, with linkages to the west African coastline),[90] Majia [ma-ka] (Mecca), Baida [b´wâng-d´ăt] (Baghdad), Jicini [kiĕt-dz´i-ni] (Ghazni), Meilugudun [mji-luo-kuət-tuən] (Malay, Rūm, or Mulahhidun?),[91] and Wusili [miuət-siẹ-ljiẹ] (Egypt). All of these places appear for the first time in a Chinese geographic account except for Baghdad. They also flourished as important political and commercial centers.

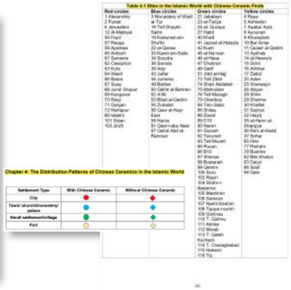
TIMELINE

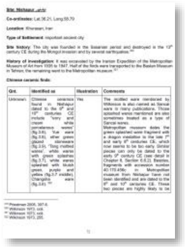
History of Mecca

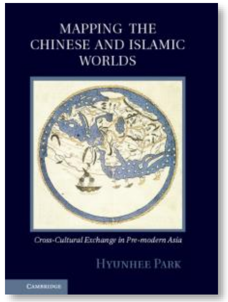


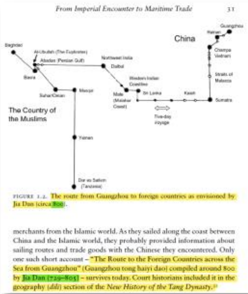


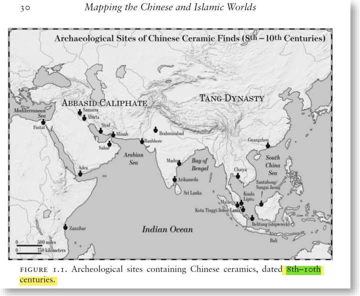


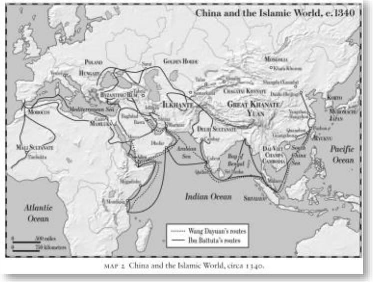












100 – 0 BC	0 – 300 AD	300 – 400 AD	400 – 500 A	500 – 600 AD	600 – 700 AD	700 – 800 AD	800 – 900 AD	900 – 1000 AD	1000 – 1100 AD	1100 – 1200 AD	1200 – 1300 AD	1300 – 1400 AD

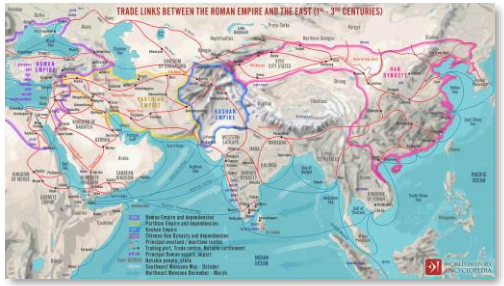
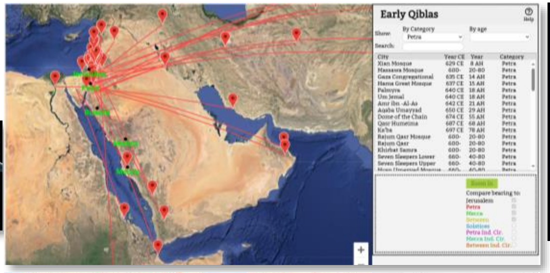
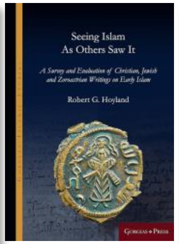
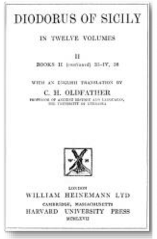
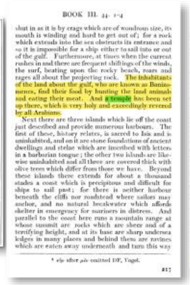
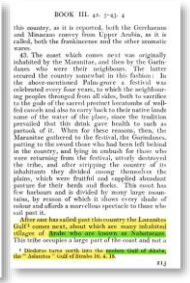
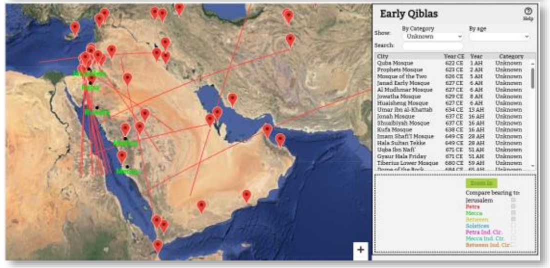
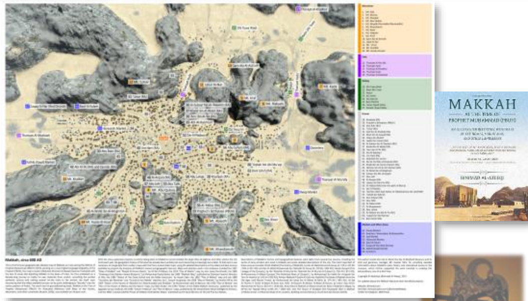



FIG 6 World map of the first plague pandemic (541 to 750/767). Regions historically affected by plague are represented in green, and regions potentially affected by plague (western part of North Africa) are in dark gray. The biological hypothesis of plague diffusion is represented by a blue arrow (Eastern European origin) and red (Indian origin) arrows, while the debated historical hypothesis of plague diffusion is represented by a blue arrow (Ethiopian origin). The map was generated in QGIS 3.4. The mapped regions and roads are based on the Digital Atlas of Roman and Medieval Civilizations (DARMC; https://darmc.harvard.edu).